COLVILLE DELTA WINTER FISH HABITAT STUDY 1991-1992

Final Report
February 8, 1993

Prepared for:

ARCO Alaska Inc.
700 G Street
Anchorage, Alaska 99510

Prepared by:

MJM Research
5460 NE Tolo Rd
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INTRODUCTION

ARCO Alaska Inc. has increased exploration activities in the Colville Delta, Alaska and these exploration activities may lead to eventual oil field development within the delta. Delta channels and lakes may be crossed by ice roads and seismic lines during exploration projects. Permanent access to the delta, which may be required for potential field development, will necessarily cross many channels. Water may be withdrawn from lakes to support both industrial and domestic needs.

During review of both exploration and development permits, information will be required on the biological sensitivity of delta channel and lakes. Lakes of interest include both isolated lakes and those connected to river channels during the open water period, often called tapped lakes. Deep isolated lakes are likely capable of supporting fish populations while the most critical use of tapped lakes is by anadromous fish that move into these lakes in the fall and remain through the winter.

The most critical use of delta channels is by anadromous fish that move into these channels and lakes connected to the channels in the fall and remain through the winter. A substantial body of information exists for the major channels of the Colville Delta (Kogl and Schell 1974, George and Kovalsky 1986, Fawcett et al. 1986, Moulton et al. 1992). These areas support substantial fisheries in the fall and fish use of these channels is well documented. Less information is available for the minor channels that lie between the Main (Kupigruak) Channel on the east and the Nechelik (Nigliq) Channel on the west.

The study will provide physical and biological information on these habitat types to understand their use as winter habitat by various fish species. In addition, the results of the survey will be used, in concert with previous surveys within the area, to direct any future investigations that may be needed.

The objectives of the study are to document fish presence and winter habitat use in both lakes and minor delta channels. Lakes include both isolated and tapped lakes that have not been previously surveyed or had been surveyed during summer in the early to mid-1980's. Selected lakes are those that may be included in an eventual field development.

METHODS

The study consisted of 20 days of gill net sampling in lakes across the outer portion of the Colville Delta in late October to early November in 1991 and 1992 (Figure 1). The initial candidate sampling locations in lakes and delta channels were identified through inspection of maps of proposed pad locations, access roads and seismic plans prior to final design of the sampling program. Once identified, available information on lake depths was reviewed and lakes deeper than 2 m (6.5 ft) deep (i.e. likely to retain water through the winter) were selected for sampling with variable mesh gill nets set under the ice. In 1992, the thickness

of the ice by October 28 restricted sampling to lakes 2.5 m deep (8 ft) or greater. Channel profiles were measured in the field and channels greater than 2 m (6.5 ft) deep were sampled.

The variable mesh gill nets used in the sampling program consisted of a set of two nets, each with three 1.8 m (6 ft) x 6.1 m (20 ft) panels. One net contained small meshes: 25 mm (1.00"), 32 mm (1.25"), and 41 mm (1.63"), the other net contained large meshes: 52 mm (2.06"), 70 mm (2.75") and 89 mm (3.50"). Nets were checked on a daily basis unless weather prevented travel. Both nets were fished for at least one day at a location. At some locations, the nets were fished for an additional day to verify initial findings. The primary objective was to document presence or absence, thus large sample sizes were neither needed nor desired.

Since salinity affects the suitability of the over-wintering habitat, salinity was measured at each of the sampling locations. A salinity profile in 0.5 m increments was measured at the beginning or end of each set using a YSI Model 33 salinometer.

Catches were separated by mesh size and enumerated by species; fork lengths were taken for all specimens. Duration of each set was recorded to allow calculation of catch rates. Otoliths were removed from all coregonines to determine age-length relationships. Otoliths were read using the break-and-burn technique.

RESULTS AND DISCUSSION

HABITATS SAMPLED

Sampling was conducted during the periods November 1-10, 1991 and October 28-November 6, 1992. Twenty-four stations were identified for sampling (Table 1, Figure 2). Sampling stations were located with a GPS positioning system.

The sampling stations were classified as river channel (RC), tapped lake (TL), or isolated lake (IL). Aerial photography of the delta region (taken July 23, 1983) was examined to verify that the sampled lakes were or were not connected to the river during summer. The presence of turbid water in the lake was used to indicate an active connection. Five of the lakes showed obvious influence by river flow with the remaining 13 lakes all isolated from direct river influence. The remaining six stations were in river channels (Table 1).

Four of the lakes had been previously sampled by Bendock and Burr (1986) during their 1985 survey of the delta region. An additional two lakes were sampled by McElderry and Craig (1981) during the search for Arctic cisco spawning areas in 1979 and referenced by Bendock and Burr (1986). The comparable sample numbers are:

1991 Station No.	Bendock & Burr Lake No.	McElderry & Craig Lake No.
9102	43	
9106	39	
9107	20	20
9111	14	13
9201	41	
9205	42	

PHYSICAL CHARACTERISTICS

Elevated salinities (maximum salinities greater than 5 ppt) were measured in three of the five tapped lakes and one isolated lake:

		Mean Salinity (ppt)	Bottom Salinity (ppt)
Tapped Lakes			
Station 9102 (B&B Lake 43)			
	Nov 2, 1991	12.6	17.7
	Nov 5, 1991	15.1	19.8
Station 9105	Nov 3, 1991	7.5	10.3
	Nov 6, 1991	9.5	13.2
Station 9107 (B&B Lake 20)			
	Nov 6, 1991	4.0	7.9
Isolated Lake			
Station 9210			
	Nov 3, 1992	4.2	5.5

Bendock and Burr (1986) report a salinity of 5 ppt in Stations 9106 (Lake 39) and 9201 (Lake 41) during the summer, we measured maximums of 0 and 3.6 ppt , respectively, at the same lakes under the ice during the 1991-1992 surveys. At Station 9102 (Lake 43), Bendock and Burr (1986) reported a maximum depth of 1.8 m (6 ft), while we observed a depth of 3.7 m (12 ft) at the 1991 sample site in the same lake.

Salinities were highest in river channels with the lowest salinities being recorded in isolated lakes:

Habitat Classification	Mean Salinity	Standard Deviation	Number of Observations
River Channel	12.5	7.1	141
Tapped Lake	7.2	6.0	50
Isolated Lake	1.0	1.1	112

BIOLOGICAL FINDINGS

Biological and Habitat Patterns

Species captured were, in order of abundance, least cisco, Arctic cisco, rainbow smelt, broad whitefish, fourhorn sculpin and humpback whitefish (Table 2). Fish were captured at 21 of the 24 sites sampled. Least cisco were caught at 17 of the 24 stations, with Arctic cisco present at 15 stations. The two species together contributed 540 of the 610 fish caught (88.5 percent). Fourhorn sculpin and rainbow smelt were the third and fourth most abundant species in 1991, but were not caught in 1992. The 1991 survey focused on river channels and tapped lakes, which are habitats to which these marine-associated species would have greater access during the fall.

Catch rates varied by habitat for each captured species (Figure 3). Arctic cisco were most abundant in river channels, with decreasing abundance in tapped lakes and isolated lakes. Conversely, least cisco increased in abundance from river channel to isolated lake habitats. Broad whitefish and humpback whitefish were only found in lakes (both tapped and isolated), while rainbow smelt and fourhorn sculpin were only found in river channels and tapped lakes.

The size of Arctic cisco increased from river channel to tapped lake to isolated lake habitat (Figure 4). Arctic cisco from river channels appeared to encompass all age groups expected to be in the region, based on size composition observed in summer fyke net sampling along the Beaufort Sea coast (LGL Alaska 1992). Age data indicated that age-1 fish (1990 year class) dominated the samples (Table 3). Arctic cisco from isolated lakes were primarily large fish at 340 mm or greater, some of which had reached maturity.

The size range of least cisco indicated a broad range of sizes in all habitats (Figure 5). Age data for least cisco indicated that more than one population was being sampled. The fish from river channels and tapped lakes had similar growth rates. Least cisco captured from isolated lakes were noticeably smaller for a given age than least cisco captured from other areas, indicating reduced growth for isolated populations as compared to the anadromous form captured in river channels and tapped lakes (Figure 6). Catch rates from isolated lakes were often high, indicating populations at high density (Appendix Table 2).

Comparison with Historical Information

Bendock and Burr (1986) reported data in a summarized form, thus it is not possible to compare size and abundance data by species on specific lakes. A comparison was possible for species presence and total CPUE (Tables 4 and 5). The results are reasonably consistent across years given the limited sampling conducted in each survey, although the number of species present appeared to be less during the 1991-1992 sampling. This reduction could be a result of the late fall sampling period because fish become less active as water temperature reduces and are not as susceptible to gill nets.

McElderry and Craig (1981) provided more detail on individual lakes. They report size ranges and mean length of fish in each lake. A comparison of mean lengths and ranges for least cisco indicates remarkably little difference between the two sampling periods, i.e. 1979 and 1991-1992 (Table 6). The minor differences may be caused by differences in mesh sizes. The other species show considerable shifts in the size structure of fish sampled, which should be expected given the small sample sizes involved.

One possible change between sampling periods is a reduction in the broad whitefish at Station 9107 (Lake 20). During summer sampling in 1979, there were multiple sizes present, while in the under-ice sampling in 1991, only larger fish were present. This difference could reflect either seasonal use patterns of long-term changes in utilization of the lake.

CONCLUSIONS

The survey indicated that over-wintering areas within the minor delta channels were limited in number and likely represented a small proportion of the surface area covered by the surveyed channels. In contrast, the lakes within the delta appeared to offer substantial opportunities for over-wintering. Many of the surveyed lakes contained water in excess of 2 m, with depths to 9 m recorded.

Three of the tapped lakes and one isolated lake near the coast showed elevated salinities during November. The lakes with elevated salinities may provide marginal habitat for freshwater species, but would be suitable for anadromous species, such as Arctic cisco, least cisco and rainbow smelt, if hypersaline conditions do not develop prior to break-up.

Species composition, relative abundance and size of fish in the survey area was similar to that previously reported during summer surveys. There were no noticeable changes that would indicate fish vacate the minor delta channels and tapped lakes prior to freeze-up. The observations are consistent with the hypothesis that fish move from the delta channels into the tapped lakes to take advantage of the greater volume of water represented by the latter habitat type.

Differential use of delta habitats by the various species was indicated by the catch patterns. Arctic cisco were primarily found in river channel habitat with low catch rates of this species

in both tapped and isolated lakes. Catch rates decreased as the mean salinity of the habitat decreased. In contrast, least cisco increased with decreasing salinity, with catches lowest in river channels and highest in isolated lakes.

The survey indicated that least cisco commonly inhabit isolated lakes within the Colville Delta and are abundant in some lakes. It is likely that least cisco develop reproducing populations in lakes deep enough to maintain wintering habitat through severe winters. Broad and humpback whitefish may also be able to develop lake-resident populations, but the sample sizes were insufficient to address this point. Arctic cisco are not known to reproduce successfully in the Colville Delta, thus it is likely that most of these fish immigrate into the isolated lakes during high water and become stranded.

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Table 1. Sampling stations used during Colville Delta Winter Fish Habitat Study 1991-1992.

Station Number	Latitiude	Longitude	Date Sampled	Depth (m)	Mean Salinity (ppt)	Habitat
9101	70°24.46'	150°35.00'	Nov 2 91	2.0	8.2	RC
9102	70°26.34'	150°36.54'	Nov 3 91	4.0	13.7	TL
9103	70°23.77'	150°41.12'	Nov 3 91	3.0	5.6	RC
9104	70°23.91'	150°43.99'	Nov 5 91	9.0	16.9	RC
9105	70°24.26'	150°45.10'	Nov 5 91	2.5	8.5	TL
9106	70°25.53'	150°41.86'	Nov 6 91	4.0	0.0	TL
9107	70°24.93'	150°41.88'	Nov 6 91	2.5	4.0	TL
9108	70°24.47'	150°52.21'	Nov 7 91	3.5	10.0	RC
9109	70°24.55'	150°54.12'	Nov 7 91	5.0	11.2	RC
9110	70°24.07'	150°56.68'	Nov 9 91	4.0	11.7	RC
9111	70°22.59'	150°50.98'	Nov 9 91	3.0	0.0	IL
9201	70°25.62'	150°31.49'	Nov 6 92	3.0	2.6	TL
9202	70°26.76'	150°31.27'	Oct 28 92	2.7	2.0	IL
9203	70°27.45'	150°31.08	Oct 28 92	3.7	2.5	IL
9204	70°27.34'	150°34.00'	Nov 2 92	6.4	0.6	IL
9205	70°26.48'	150°34.39'	Oct 30 92	8.5	0.5	IL
9206	70°26.38'	150°34.66'	Oct 30 92	4.6	0.0	IL
9207	70°27.52'	150°38.79'	Oct 31 92	5.2	1.0	TL
9208	70°26.53'	150°43.38'	Nov 1 92	5.5	0.5	IL
9209	70°24.95'	150°44.16'	Nov 1 92	5.5	0.2	IL
9210	70°26.90'	150°50.94'	Nov 3 92	3.5	4.2	IL
9211	70°26.11'	150°51.70'	Nov 3 92	4.6	0.9	IL
9212	70°24.94'	150°51.49'	Nov 4 92	4.0	1.3	IL
9213	70°24.61'	150°55.14'	Nov 4 92	4.3	0.5	IL

RC = river channel
IL = isolated lake
TL = tapped lake

Table 2. Total catch by species and mesh size during November 1991 sampling in the Coville River delta.

Mesh (mm)	Arctic cisco	Least cisco	Broad whitefish	Humpbac whitefish	Rainbow smelt	Fourhorn sculpin
25	41	7	0	0	2	3
32	5	4	0	0	3	0
41	15	63	0	1	9	2
52	31	103	0	0	23	3
70	15	36	6	0	1	4
89	1	0	3	0	1	0
Totals:	108	213	9	1	39	12

Table 3. Length at age for Arctic cisco captured in the Colville River delta during 1991-1992 gillnet sampling.

Age (years)	Mean Length (mm)	Standard Deviation	Number of Fish
1	121.1	6.9	42
2	163.3	6.3	4
3	182.5	12.7	11
4	250.7	16.8	23
5	283.1	17.0	16
6	315.8	10.2	4
7	343.0		1
8	335.0	21.2	2
9	385.0		1
10	357.0		1
11			0
12	404.5	34.6	2
13	372.0		1
14	363.0		1
15	393.0	43.5	3
16	405.5	13.4	2
17	408.0		1
18	410.0	28.3	2
Total Examined:			117

Table 4. Comparison of fish species present in lakes sampled during 1991-1992 in the Colville River delta to sampling conducted in 1979 and 1985 (all meshes combined).

Station	Bendock Lake No.	1991-1992 Species (winter)	Previous Sample Year	Previous Species (summer)
9102	43	ARCS RBSM	1985	ARCS LSCS BDWF RDWF ARFL FHSC
9106	39	LSCS BDWF	1985	LSCS BDWF
9107	20	ARCS LSCS BDWF HBWF FHSC	1979	ARCS LSCS BDWF HBWF RBSM ARFL FHSC
9111	14	LSCS	1979	LSCS
9201	41	ARCS	1985	LSCS BDWF LNSK FHSC
9205	42	LSCS	1985	ARCS LSCS BDWF

ARCS: Arctic cisco
LSCS: Least cisco
BDWF: Broad whitefish
HBWF: Humpback whitefish
RDWF: Round whitefish
LNSK: Longnose sucker
RBSM: Rainbow smelt
ARFL: Arctic flounder
FHSC: Fourhorn sculpin

1979 sampling by McElderry and Craig (1981)
1985 sampling by Bendock and Burr (1986)

Table 5. Total CPUE in lakes sampled during 1991-1992 sampling in the Colville River delta compared to previously-reported total CPUE (all meshes combined).

Station	Bendock Lake No.	1991-1992 CPUE (winter) (fish/hr)	Previous Sample Year	Previous CPUE (summer) (fish/hr)
9102	43	0.26	1985	0.49
9106	39	0.33	1985	0.80
9107	20	1.31	1979	4.60
9111	14	4.25	1979	4.00
9201	41	0.11	1985	0.37
9205	42	0.13	1985	0.25

CPUE = fish per hour per 150 ft of net

1979 sampling by McElderry and Craig (1981)
1985 sampling by Bendock and Burr (1986)

Table 6. Comparison of mean lengths and length ranges between lakes sampled in 1991-1992 and 1979 in the Colville River delta (all meshes combined).

			1991-1992			1979		
Station	McElderry & Craig Lake No.	Species	Mean Length (mm)	Length Range (mm)	Number	Mean Length (mm)	Length Range (mm)	Number
9107	20	ARCS	161	114-245	3	309	247-352	5
		LSCS	272	151-335	13	259	130-332	50
		BDWF	358	343-370	4	309	120-445	26
		HBWF	164	164	1	352	332-372	2
9111	13	LSCS	245	125-340	150	221	130-367	83

1979 data from McElderry and Craig (1981)

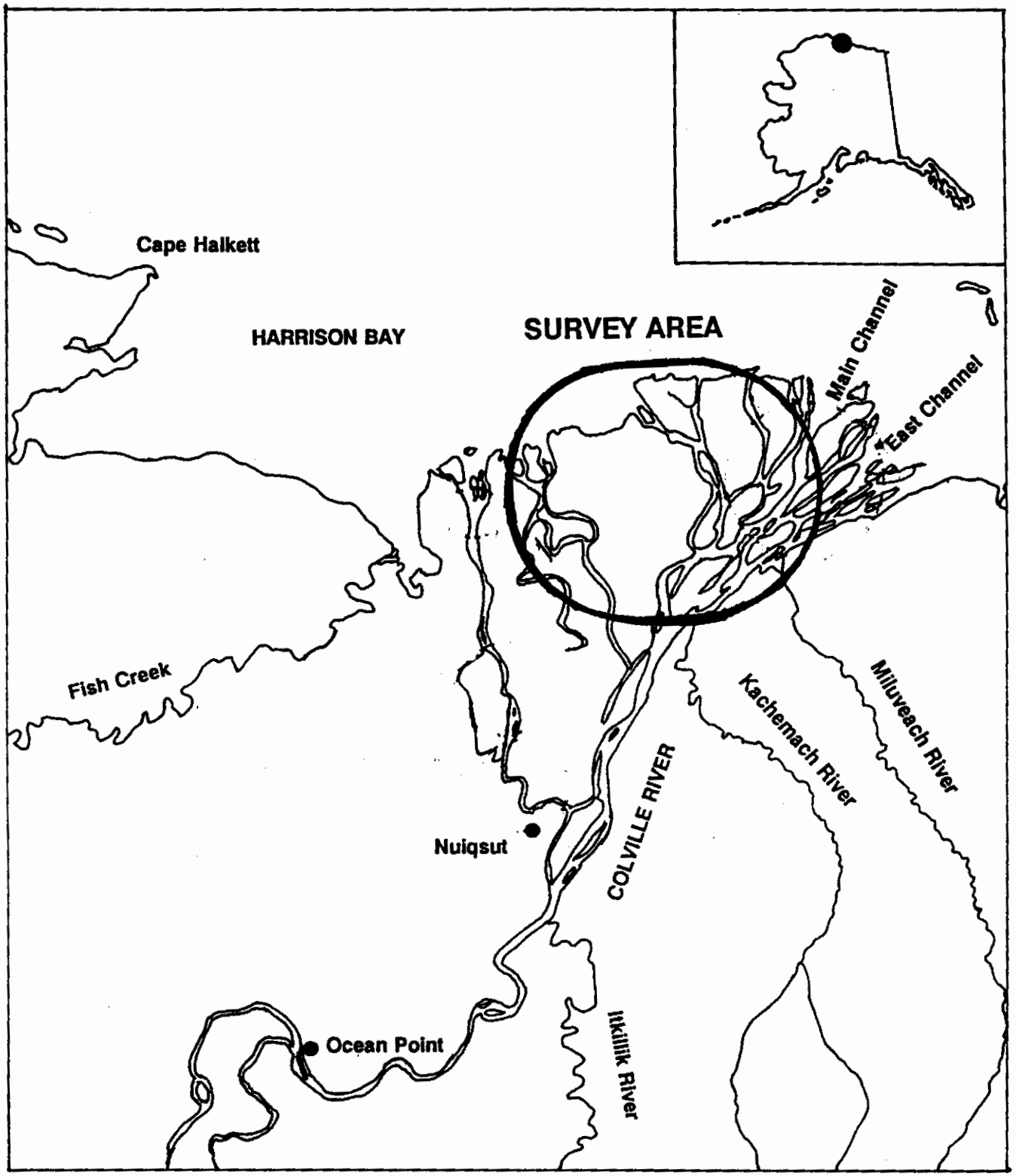

Figure 1. General area of sampling within the Colville Delta

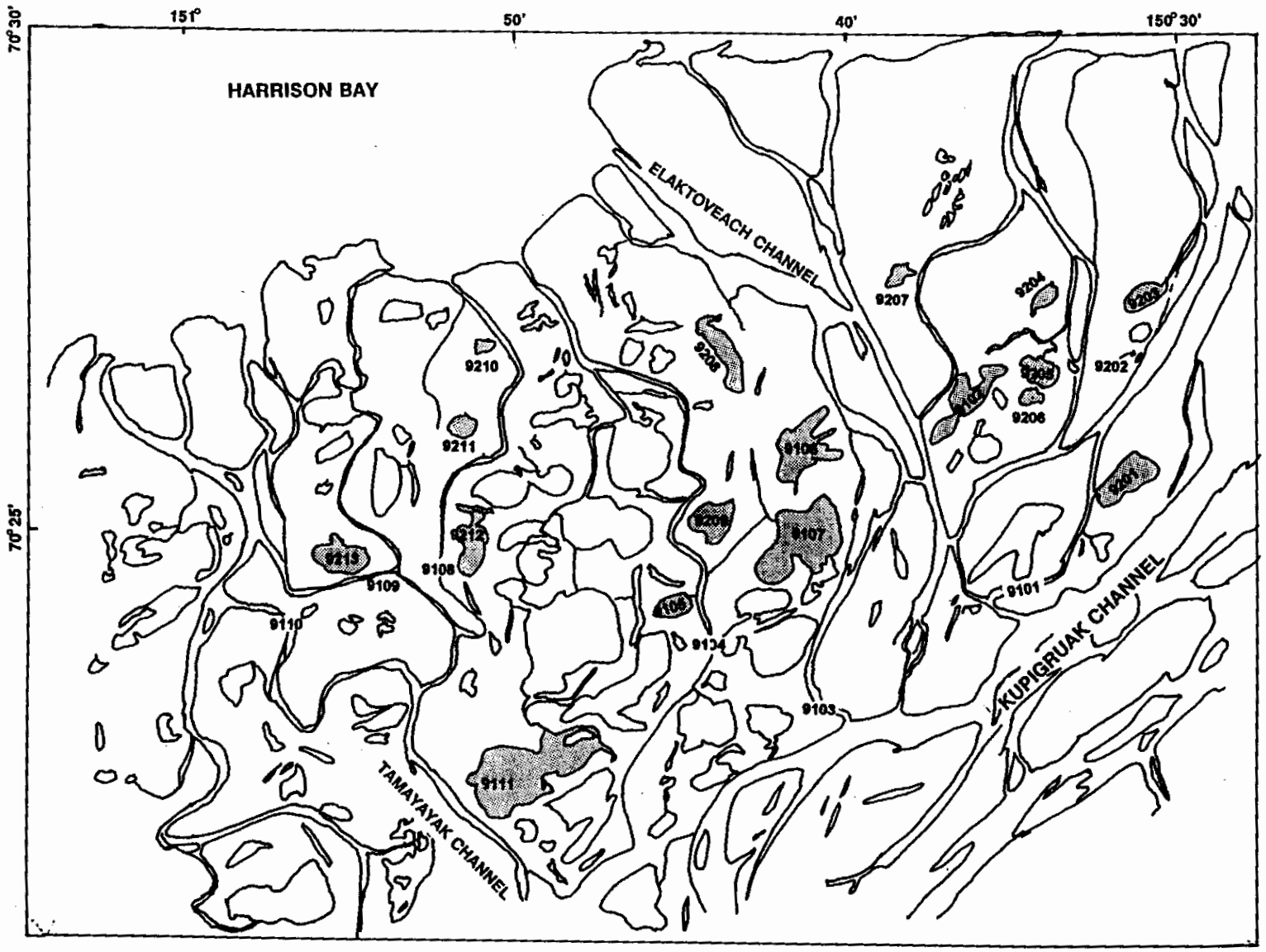

Figure 2. Location of stations sampled during gill net surveys within the Colville Delta in October-November, 1991-1992.

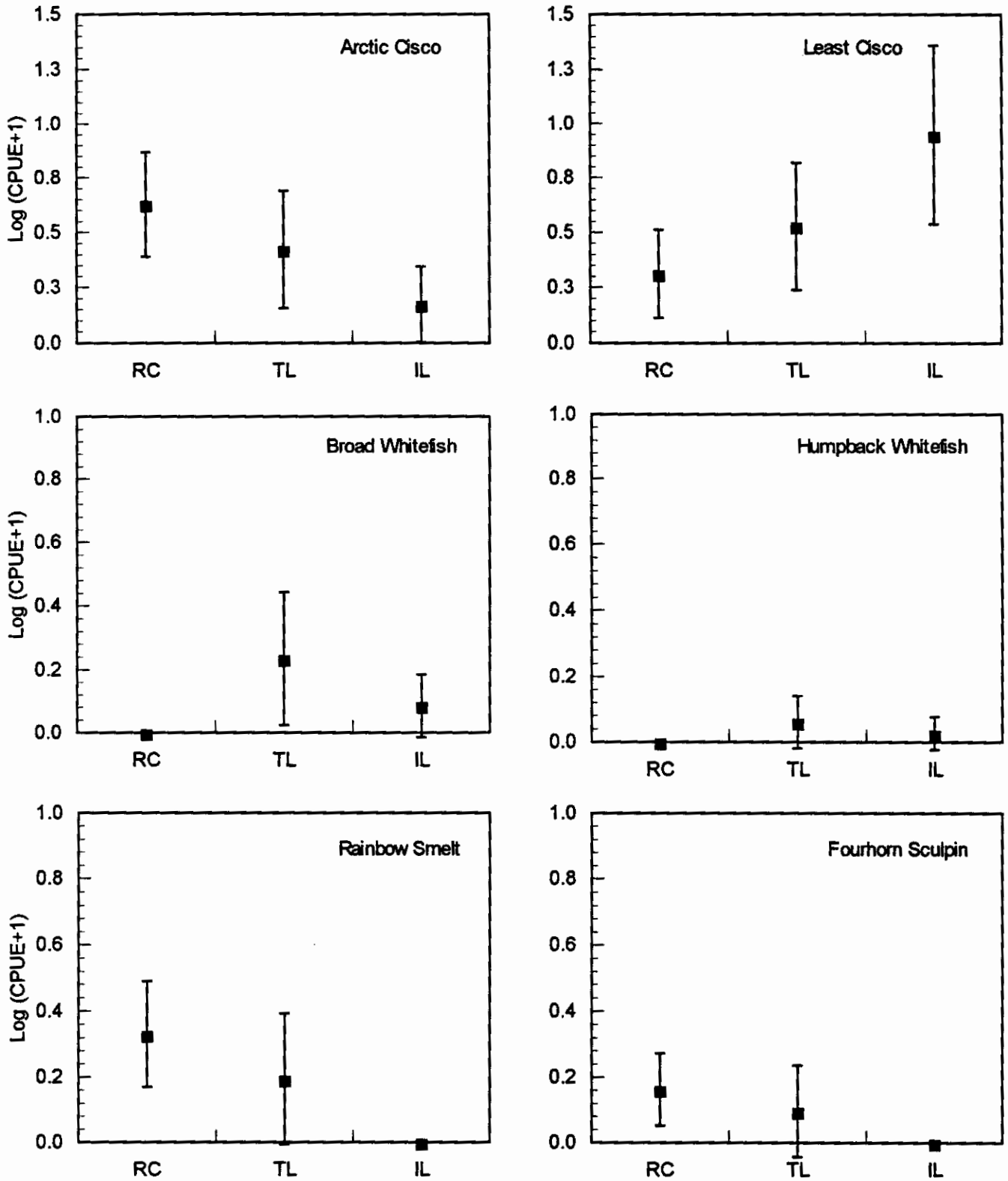

Figure 3. Mean catch rate by habitat for fish species captured during the 1991-1992 Colville Delta Fish Habitat Study (RC = river channel, TL = tapped lake, IL = isolated lake; vertical bars = 2 standard errors).

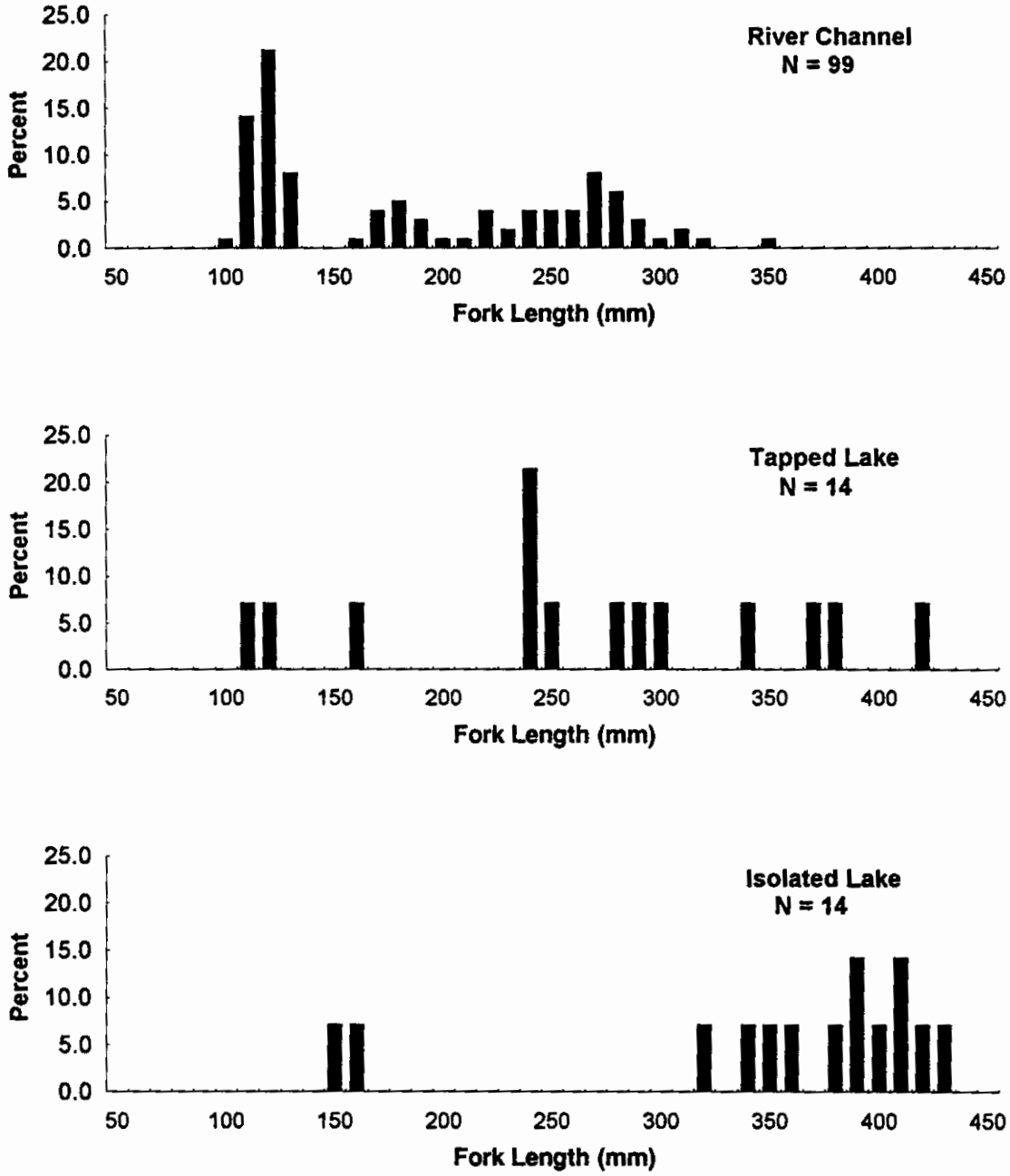

Figure 4. Size distribution of Arctic cisco captured during 1991-1992 sampling in Colville Delta habitats.

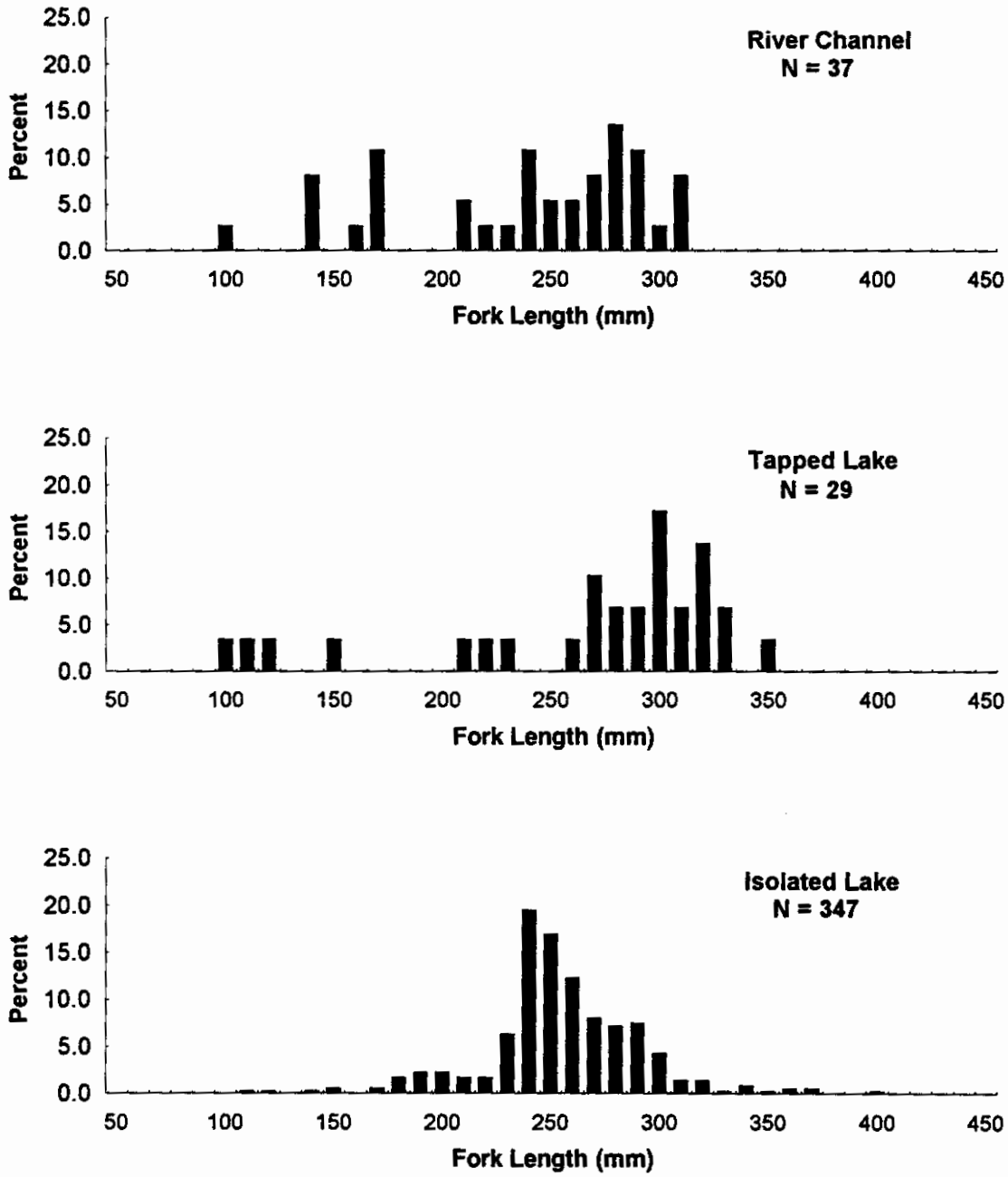

Figure 5. Size distribution of least cisco captured during 1991-1992 sampling in Colville Delta habitats.

DATA APPENDIX

APPENDIX TABLES

Appendix Table 1. Total catch by station and date for fish captured during the Colville Delta Winter fish Habitat Study, 1991-1992, all meshes combined.

Appendix Table 2. Total CPUE by station and date for fish captured during the Colville Delta Winter Fish Habitat Study, 1991-1992, all meshes combined (CPUE = fish per day for 120 ft of net).

Appendix Table 3. Catch data from 1991-1992 gillnet sampling in the Colville River Delta.

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Appendix Table 1. Total catch by station and date for fish captured during the Colville Delta Winter fish Habitat Study, 1991-1992, all meshes combined.

Station	Habitat	Date	Depth (m)	Duration (hrs)	Mean Salinity (ppt)	Arctic cisco	Least cisco	Broad whitefish	Humpback whitefish	Rainbow smelt	Fourhorn sculpin	Total Catch
9101	RC	11/2/91	2.0	22	8.4	6	3	0	0	1	1	11
9101	RC	11/3/91	2.0	24	9.3	25	5	0	0	1	3	34
9102	TL	11/3/91	4.0	23	12.6	0	0	0	0	3	0	3
9102	TL	11/5/91	4.0	48	15.1	2	0	0	0	10	0	12
9103	RC	11/3/91	3.0	22	7.2	22	13	0	0	0	3	38
9104	RC	11/5/91	9.0	48	18.6	8	3	0	0	0	1	12
9104	RC	11/6/91	9.0	21	13.1	4	0	0	0	2	0	6
9104	RC	11/7/91	9.0	23	18.9	1	2	0	0	1	0	4
9105	TL	11/5/91	2.5	48	7.5	2	3	0	0	0	0	5
9105	TL	11/6/91	2.5	20	9.5	2	3	0	0	2	0	7
9106	TL	11/6/91	4.0	22	0.0	0	5	4	0	0	0	9
9106	TL	11/7/91	4.0	24	--	0	2	1	0	0	0	3
9107	TL	11/6/91	2.5	21	4.0	3	13	4	1	0	1	22
9108	RC	11/7/91	3.5	21	4.1	0	0	0	0	0	0	0
9108	RC	11/9/91	3.5	50	15.2	0	0	0	0	0	0	0
9109	RC	11/7/91	5.0	20	5.9	7	6	0	0	3	1	17
9109	RC	11/9/91	5.0	49	12.2	8	5	0	0	4	1	18
9109	RC	11/10/91	5.0	22	18.5	1	0	0	0	0	1	2
9110	RC	11/9/91	4.0	47	12.5	14	0	0	0	9	0	23
9110	RC	11/10/91	4.0	23	14.7	3	0	0	0	3	0	6
9111	IL	11/9/91	3.0	44	0.0	0	150	0	0	0	0	150
9201	TL	11/7/92	3.0	23.0	2.6	2	0	0	0	0	0	2
9202	IL	10/30/92	2.5	43.8	2.0	0	0	0	0	0	0	0
9203	IL	10/30/92	3.5	46.5	2.5	4	11	1	0	0	0	16
9204	IL	11/3/92	6.0	25.0	0.6	0	13	0	0	0	0	13

Appendix Table 1. Total catch by station and date for fish captured during the Colville Delta Winter fish Habitat Study, 1991-1992, all meshes combined.

Station	Habitat	Date	Depth (m)	Duration (hrs)	Mean Salinity (ppt)	Arctic cisco	Least cisco	Broad whitefish	Humpback whitefish	Rainbow smelt	Fourhorn sculpin	Total Catch
9205	IL	10/30/92	6.0	20.0	0.5	0	2	0	0	0	0	2
9206	IL	10/31/92	4.5	18.5	0.0	1	16	0	0	0	0	17
9207	IL	11/1/92	5.0	27.5	1.0	3	3	3	1	0	0	10
9208	IL	11/2/92	5.5	23.0	0.5	1	0	1	1	0	0	3
9209	IL	11/2/92	4.0	20.5	0.2	0	12	2	0	0	0	14
9210	IL	11/4/92	3.5	30.5	4.2	0	0	0	0	0	0	0
9211	IL	11/4/92	4.5	26.0	0.9	8	6	0	0	0	0	14
9212	IL	11/5/92	4.0	20.0	1.3	0	87	0	0	0	0	87
9213	IL	11/5/92	3.0	22.0	0.5	0	50	0	0	0	0	50

Appendix Table 2. Total CPUE by station and date for fish captured during the Colville Delta Winter Fish Habitat Study, 1991-1992, all meshes combined (CPUE = fish per day for 120 ft of net).

Station	Habitat	Date	Depth (m)	Duration (hrs)	Mean Salinity (ppt)	Arctic cisco	Least cisco	Broad whitefish	Humpback whitefish	Rainbow smelt	Fourhorn sculpin	Total CPUE
9101	RC	11/2/91	2.0	22	8.4	6.5	3.3	0.0	0.0	1.1	1.1	12.0
9101	RC	11/3/91	2.0	24	9.3	25.0	5.0	0.0	0.0	1.0	3.0	34.0
9102	TL	11/3/91	4.0	23	12.6	0.0	0.0	0.0	0.0	3.1	0.0	3.1
9102	TL	11/5/91	4.0	48	15.1	1.0	0.0	0.0	0.0	5.0	0.0	6.0
9103	RC	11/3/91	3.0	22	7.2	24.0	14.2	0.0	0.0	0.0	3.3	41.5
9104	RC	11/5/91	9.0	48	18.6	4.0	1.5	0.0	0.0	0.0	0.5	6.0
9104	RC	11/6/91	9.0	21	13.1	4.6	0.0	0.0	0.0	2.3	0.0	6.9
9104	RC	11/7/91	9.0	23	18.9	1.0	2.1	0.0	0.0	1.0	0.0	4.2
9105	TL	11/5/91	2.5	48	7.5	1.0	1.5	0.0	0.0	0.0	0.0	2.5
9105	TL	11/6/91	2.5	20	9.5	2.4	3.6	0.0	0.0	2.4	0.0	8.4
9106	TL	11/6/91	4.0	22	0.0	0.0	5.5	4.4	0.0	0.0	0.0	9.8
9106	TL	11/7/91	4.0	24	--	0.0	2.0	1.0	0.0	0.0	0.0	3.0
9107	TL	11/6/91	2.5	21	4.0	3.4	14.9	4.6	1.1	0.0	1.1	25.1
9108	RC	11/7/91	3.5	21	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9108	RC	11/9/91	3.5	50	15.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9109	RC	11/7/91	5.0	20	5.9	8.4	7.2	0.0	0.0	3.6	1.2	20.4
9109	RC	11/9/91	5.0	49	12.2	3.9	2.4	0.0	0.0	2.0	0.5	8.8
9109	RC	11/10/91	5.0	22	18.5	1.1	0.0	0.0	0.0	0.0	1.1	2.2
9110	RC	11/9/91	4.0	47	12.5	7.1	0.0	0.0	0.0	4.6	0.0	11.7
9110	RC	11/10/91	4.0	23	14.7	3.1	0.0	0.0	0.0	3.1	0.0	6.3
9111	IL	11/9/91	3.0	44	0.0	0.0	81.8	0.0	0.0	0.0	0.0	81.8
9201	TL	11/7/92	3.0	23.0	2.6	2.1	0.0	0.0	0.0	0.0	0.0	2.1
9202	IL	10/30/92	2.5	43.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9203	IL	10/30/92	3.5	46.5	2.5	2.1	5.7	0.5	0.0	0.0	0.0	8.3
9204	IL	11/3/92	6.0	25.0	0.6	0.0	12.5	0.0	0.0	0.0	0.0	12.5

Appendix Table 2. Total CPUE by station and date for fish captured during the Colville Delta Winter Fish Habitat Study, 1991-1992, all meshes combined (CPUE = fish per day for 120 ft of net).

Station	Habitat	Date	Depth (m)	Duration (hrs)	Mean Salinity (ppt)	Arctic cisco	Least cisco	Broad whitefish	Humpback whitefish	Rainbow smelt	Fourhorn sculpin	Total CPUE
9205	IL	10/30/92	6.0	20.0	0.5	0.0	2.4	0.0	0.0	0.0	0.0	2.4
9206	IL	10/31/92	4.5	18.5	0.0	1.3	20.8	0.0	0.0	0.0	0.0	22.1
9207	IL	11/1/92	5.0	27.5	1.0	2.6	2.6	2.6	0.9	0.0	0.0	8.7
9208	IL	11/2/92	5.5	23.0	0.5	1.0	0.0	1.0	1.0	0.0	0.0	3.1
9209	IL	11/2/92	4.0	20.5	0.2	0.0	14.0	2.3	0.0	0.0	0.0	16.4
9210	IL	11/4/92	3.5	30.5	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9211	IL	11/4/92	4.5	26.0	0.9	7.4	5.5	0.0	0.0	0.0	0.0	12.9
9212	IL	11/5/92	4.0	20.0	1.3	0.0	104.4	0.0	0.0	0.0	0.0	104.4
9213	IL	11/5/92	3.0	22.0	0.5	0.0	54.5	0.0	0.0	0.0	0.0	54.5

Appendix Table 3. Catch data from 1991-1992 gillnet sampling in the Colville River Delta.

Set No.	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Panel Length (ft)	Mesh (in)	Fishing Duration (hours)	Species	Number Caught	Number Sampled
9101	Gillnet	9101	RC	11/2/91	1015	1	20	1.00	22	FHSC	1	0
9101	Gillnet	9101	RC	11/2/91	1015	1	20	1.00	22	ARCS	4	4
9101	Gillnet	9101	RC	11/2/91	1015	2	20	1.25	22		0	0
9101	Gillnet	9101	RC	11/2/91	1015	3	20	1.63	22		0	0
9101	Gillnet	9101	RC	11/2/91	1015	4	20	2.06	22	LSCS	1	1
9101	Gillnet	9101	RC	11/2/91	1015	4	20	2.06	22	ARCS	1	1
9101	Gillnet	9101	RC	11/2/91	1015	5	20	2.75	22	ARCS	1	1
9101	Gillnet	9101	RC	11/2/91	1015	5	20	2.75	22	LSCS	2	2
9101	Gillnet	9101	RC	11/2/91	1015	5	20	2.75	22	RBSM	1	1
9101	Gillnet	9101	RC	11/2/91	1015	6	20	3.50	22		0	0
9102	Gillnet	9101	RC	11/3/91	1000	1	20	1.00	24	ARCS	17	17
9102	Gillnet	9101	RC	11/3/91	1000	1	20	1.00	24	FHSC	1	0
9102	Gillnet	9101	RC	11/3/91	1000	2	20	1.25	24	ARCS	2	2
9102	Gillnet	9101	RC	11/3/91	1000	3	20	1.63	24	ARCS	1	1
9102	Gillnet	9101	RC	11/3/91	1000	3	20	1.63	24	FHSC	1	0
9102	Gillnet	9101	RC	11/3/91	1000	4	20	2.06	24	LSCS	4	4
9102	Gillnet	9101	RC	11/3/91	1000	4	20	2.06	24	ARCS	5	5
9102	Gillnet	9101	RC	11/3/91	1000	4	20	2.06	24	RBSM	1	1
9102	Gillnet	9101	RC	11/3/91	1000	4	20	2.06	24	FHSC	1	0
9102	Gillnet	9101	RC	11/3/91	1000	5	20	2.75	24	LSCS	1	1
9102	Gillnet	9101	RC	11/3/91	1000	6	20	3.50	24		0	0
9103	Gillnet	9102	TL	11/3/91	1000	1	20	1.00	23		0	0
9103	Gillnet	9102	TL	11/3/91	1000	2	20	1.25	23		0	0
9103	Gillnet	9102	TL	11/3/91	1000	3	20	1.63	23		0	0
9103	Gillnet	9102	TL	11/3/91	1000	4	20	2.06	23	RBSM	3	3
9103	Gillnet	9102	TL	11/3/91	1000	5	20	2.75	23		0	0
9103	Gillnet	9102	TL	11/3/91	1000	6	20	3.50	23		0	0
9104	Gillnet	9103	RC	11/3/91	1115	1	20	1.00	22	ARCS	13	13
9104	Gillnet	9103	RC	11/3/91	1115	1	20	1.00	22	FHSC	1	0
9104	Gillnet	9103	RC	11/3/91	1115	2	20	1.25	22	LSCS	2	2
9104	Gillnet	9103	RC	11/3/91	1115	2	20	1.25	22	ARCS	1	1
9104	Gillnet	9103	RC	11/3/91	1115	3	20	1.63	22	LSCS	1	1
9104	Gillnet	9103	RC	11/3/91	1115	3	20	1.63	22	ARCS	2	2
9104	Gillnet	9103	RC	11/3/91	1115	4	20	2.06	22	ARCS	2	2
9104	Gillnet	9103	RC	11/3/91	1115	4	20	2.06	22	LSCS	1	1
9104	Gillnet	9103	RC	11/3/91	1115	5	20	2.75	22	ARCS	4	4
9104	Gillnet	9103	RC	11/3/91	1115	5	20	2.75	22	LSCS	9	9
9104	Gillnet	9103	RC	11/3/91	1115	5	20	2.75	22	FHSC	2	0
9104	Gillnet	9103	RC	11/3/91	1115	6	20	3.50	22		0	0
9105	Gillnet	9102	TL	11/5/91	1030	1	20	1.00	48	RBSM	2	2
9105	Gillnet	9102	TL	11/5/91	1030	2	20	1.25	48	RBSM	1	1
9105	Gillnet	9102	TL	11/5/91	1030	3	20	1.63	48	RBSM	1	1
9105	Gillnet	9102	TL	11/5/91	1030	4	20	2.06	48	RBSM	6	6
9105	Gillnet	9102	TL	11/5/91	1030	4	20	2.06	48	ARCS	2	2
9105	Gillnet	9102	TL	11/5/91	1030	5	20	2.75	48		0	0
9105	Gillnet	9102	TL	11/5/91	1030	6	20	3.50	48		0	0
9106	Gillnet	9104	RC	11/5/91	1400	1	20	1.00	48	ARCS	2	2
9106	Gillnet	9104	RC	11/5/91	1400	2	20	1.25	48		0	0
9106	Gillnet	9104	RC	11/5/91	1400	3	20	1.63	48	LSCS	2	2
9106	Gillnet	9104	RC	11/5/91	1400	3	20	1.63	48	ARCS	3	3
9106	Gillnet	9104	RC	11/5/91	1400	3	20	1.63	48	FHSC	1	0
9106	Gillnet	9104	RC	11/5/91	1400	4	20	2.06	48	ARCS	3	3
9106	Gillnet	9104	RC	11/5/91	1400	4	20	2.06	48	LSCS	1	1
9106	Gillnet	9104	RC	11/5/91	1400	5	20	2.75	48		0	0
9106	Gillnet	9104	RC	11/5/91	1400	6	20	3.50	48		0	0
9107	Gillnet	9105	TL	11/5/91	1500	1	20	1.00	48		0	0
9107	Gillnet	9105	TL	11/5/91	1500	2	20	1.25	48		0	0
9107	Gillnet	9105	TL	11/5/91	1500	3	20	1.63	48		0	0

Appendix Table 3. Catch data from 1991-1992 gillnet sampling in the Colville River Delta.

Set No.	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Panel Length (ft)	Mesh (in)	Fishing Duration (hours)	Species	Number Caught	Number Sampled
9107	Gillnet	9105	TL	11/5/91	1500	4	20	2.06	48	LSCS	3	3
9107	Gillnet	9105	TL	11/5/91	1500	5	20	2.75	48	ARCS	2	2
9107	Gillnet	9105	TL	11/5/91	1500	6	20	3.50	48		0	0
9108	Gillnet	9106	TL	11/6/91	1000	1	20	1.00	22	LSCS	3	3
9108	Gillnet	9106	TL	11/6/91	1000	2	20	1.25	22		0	0
9108	Gillnet	9106	TL	11/6/91	1000	3	20	1.63	22		0	0
9108	Gillnet	9106	TL	11/6/91	1000	4	20	2.06	22	LSCS	1	1
9108	Gillnet	9106	TL	11/6/91	1000	5	20	2.75	22	LSCS	1	1
9108	Gillnet	9106	TL	11/6/91	1000	5	20	2.75	22	BDWF	3	3
9108	Gillnet	9106	TL	11/6/91	1000	6	20	3.50	22	BDWF	1	1
9109	Gillnet	9107	TL	11/6/91	1040	1	20	1.00	21	ARCS	2	2
9109	Gillnet	9107	TL	11/6/91	1040	1	20	1.00	21	LSCS	1	1
9109	Gillnet	9107	TL	11/6/91	1040	2	20	1.25	21		0	0
9109	Gillnet	9107	TL	11/6/91	1040	3	20	1.63	21	HBWF	1	1
9109	Gillnet	9107	TL	11/6/91	1040	3	20	1.63	21	LSCS	1	1
9109	Gillnet	9107	TL	11/6/91	1040	4	20	2.06	21	ARCS	1	1
9109	Gillnet	9107	TL	11/6/91	1040	4	20	2.06	21	LSCS	4	4
9109	Gillnet	9107	TL	11/6/91	1040	5	20	2.75	21	BDWF	2	2
9109	Gillnet	9107	TL	11/6/91	1040	5	20	2.75	21	LSCS	7	7
9109	Gillnet	9107	TL	11/6/91	1040	5	20	2.75	21	FHSC	1	0
9109	Gillnet	9107	TL	11/6/91	1040	6	20	3.50	21	BDWF	2	2
9110	Gillnet	9104	RC	11/6/91	1115	1	20	1.00	21		0	0
9110	Gillnet	9104	RC	11/6/91	1115	2	20	1.25	21		0	0
9110	Gillnet	9104	RC	11/6/91	1115	3	20	1.63	21		0	0
9110	Gillnet	9104	RC	11/6/91	1115	4	20	2.06	21	RBSM	1	1
9110	Gillnet	9104	RC	11/6/91	1115	4	20	2.06	21	ARCS	1	1
9110	Gillnet	9104	RC	11/6/91	1115	5	20	2.75	21	ARCS	2	2
9110	Gillnet	9104	RC	11/6/91	1115	6	20	3.50	21	RBSM	1	1
9110	Gillnet	9104	RC	11/6/91	1115	6	20	3.50	21	ARCS	1	1
9111	Gillnet	9105	TL	11/6/91	1145	1	20	1.00	20		0	0
9111	Gillnet	9105	TL	11/6/91	1145	2	20	1.25	20		0	0
9111	Gillnet	9105	TL	11/6/91	1145	3	20	1.63	20	RBSM	1	1
9111	Gillnet	9105	TL	11/6/91	1145	4	20	2.06	20	ARCS	2	2
9111	Gillnet	9105	TL	11/6/91	1145	4	20	2.06	20	RBSM	1	1
9111	Gillnet	9105	TL	11/6/91	1145	5	20	2.75	20	LSCS	3	3
9111	Gillnet	9105	TL	11/6/91	1145	6	20	3.50	20		0	0
9112	Gillnet	9106	TL	11/7/91	1000	1	20	1.00	24		0	0
9112	Gillnet	9106	TL	11/7/91	1000	2	20	1.25	24		0	0
9112	Gillnet	9106	TL	11/7/91	1000	3	20	1.63	24		0	0
9112	Gillnet	9106	TL	11/7/91	1000	4	20	2.06	24		0	0
9112	Gillnet	9106	TL	11/7/91	1000	5	20	2.75	24	LSCS	2	2
9112	Gillnet	9106	TL	11/7/91	1000	5	20	2.75	24	BDWF	1	1
9112	Gillnet	9106	TL	11/7/91	1000	6	20	3.50	24		0	0
9113	Gillnet	9104	RC	11/7/91	1020	1	20	1.00	23	ARCS	1	1
9113	Gillnet	9104	RC	11/7/91	1020	1	20	1.00	23	LSCS	1	1
9113	Gillnet	9104	RC	11/7/91	1020	2	20	1.25	23		0	0
9113	Gillnet	9104	RC	11/7/91	1020	3	20	1.63	23		0	0
9113	Gillnet	9104	RC	11/7/91	1020	4	20	2.06	23	LSCS	1	1
9113	Gillnet	9104	RC	11/7/91	1020	4	20	2.06	23	RBSM	1	1
9113	Gillnet	9104	RC	11/7/91	1020	5	20	2.75	23		0	0
9113	Gillnet	9104	RC	11/7/91	1020	6	20	3.50	23		0	0
9114	Gillnet	9105	TL	11/6/91	1430	1	20	1.00	2		0	0
9114	Gillnet	9105	TL	11/6/91	1430	2	20	1.25	2		0	0
9115	Gillnet	9108	RC	11/7/91	1045	1	20	1.00	21		0	0
9115	Gillnet	9108	RC	11/7/91	1045	2	20	1.25	21		0	0
9115	Gillnet	9108	RC	11/7/91	1045	3	20	1.63	21		0	0
9115	Gillnet	9108	RC	11/7/91	1045	4	20	2.06	21		0	0
9115	Gillnet	9108	RC	11/7/91	1045	5	20	2.75	21		0	0

Appendix Table 3. Catch data from 1991-1992 gillnet sampling in the Colville River Delta.

Set No.	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Panel Length (ft)	Mesh (in)	Fishing Duration (hours)	Species	Number Caught	Number Sampled
9115	Gillnet	9108	RC	11/7/91	1045	6	20	3.50	21		0	0
9116	Gillnet	9109	RC	11/7/91	1115	1	20	1.00	20	ARCS	2	2
9116	Gillnet	9109	RC	11/7/91	1115	2	20	1.25	20	LSCS	2	2
9116	Gillnet	9109	RC	11/7/91	1115	3	20	1.63	20	ARCS	2	2
9116	Gillnet	9109	RC	11/7/91	1115	3	20	1.63	20	LSCS	4	4
9116	Gillnet	9109	RC	11/7/91	1115	4	20	2.06	20	RBSM	3	3
9116	Gillnet	9109	RC	11/7/91	1115	4	20	2.06	20	ARCS	2	2
9116	Gillnet	9109	RC	11/7/91	1115	4	20	2.06	20	FHSC	1	0
9116	Gillnet	9109	RC	11/7/91	1115	5	20	2.75	20	ARCS	1	1
9116	Gillnet	9109	RC	11/7/91	1115	6	20	3.50	20		0	0
9117	Gillnet	9108	RC	11/9/91	1245	1	20	1.00	50		0	0
9117	Gillnet	9108	RC	11/9/91	1245	2	20	1.25	50		0	0
9117	Gillnet	9108	RC	11/9/91	1245	3	20	1.63	50		0	0
9117	Gillnet	9108	RC	11/9/91	1245	4	20	2.06	50		0	0
9117	Gillnet	9108	RC	11/9/91	1245	5	20	2.75	50		0	0
9117	Gillnet	9108	RC	11/9/91	1245	6	20	3.50	50		0	0
9118	Gillnet	9109	RC	11/9/91	1215	1	20	1.00	49		0	0
9118	Gillnet	9109	RC	11/9/91	1215	2	20	1.25	49	ARCS	2	2
9118	Gillnet	9109	RC	11/9/91	1215	3	20	1.63	49	ARCS	4	4
9118	Gillnet	9109	RC	11/9/91	1215	3	20	1.63	49	LSCS	1	1
9118	Gillnet	9109	RC	11/9/91	1215	3	20	1.63	49	RBSM	1	1
9118	Gillnet	9109	RC	11/9/91	1215	4	20	2.06	49	ARCS	1	1
9118	Gillnet	9109	RC	11/9/91	1215	4	20	2.06	49	LSCS	1	1
9118	Gillnet	9109	RC	11/9/91	1215	4	20	2.06	49	RBSM	3	3
9118	Gillnet	9109	RC	11/9/91	1215	5	20	2.75	49	ARCS	1	1
9118	Gillnet	9109	RC	11/9/91	1215	5	20	2.75	49	FHSC	1	1
9118	Gillnet	9109	RC	11/9/91	1215	5	20	2.75	49	LSCS	3	3
9118	Gillnet	9109	RC	11/9/91	1215	6	20	3.50	49		0	0
9119	Gillnet	9110	RC	11/9/91	1145	1	20	1.00	47		0	0
9119	Gillnet	9110	RC	11/9/91	1145	2	20	1.25	47	RBSM	1	1
9119	Gillnet	9110	RC	11/9/91	1145	3	20	1.63	47	RBSM	6	5
9119	Gillnet	9110	RC	11/9/91	1145	4	20	2.06	47	ARCS	10	10
9119	Gillnet	9110	RC	11/9/91	1145	4	20	2.06	47	RBSM	2	2
9119	Gillnet	9110	RC	11/9/91	1145	5	20	2.75	47	ARCS	4	4
9119	Gillnet	9110	RC	11/9/91	1145	6	20	3.50	47		0	0
9120	Gillnet	9111	IL	11/9/91	1045	1	20	1.00	44	LSCS	2	2
9120	Gillnet	9111	IL	11/9/91	1045	2	20	1.25	44		0	0
9120	Gillnet	9111	IL	11/9/91	1045	3	20	1.63	44	LSCS	54	54
9120	Gillnet	9111	IL	11/9/91	1045	4	20	2.06	44	LSCS	86	86
9120	Gillnet	9111	IL	11/9/91	1045	5	20	2.75	44	LSCS	8	8
9120	Gillnet	9111	IL	11/9/91	1045	6	20	3.50	44		0	0
9121	Gillnet	9110	RC	11/10/91	1045	1	20	1.00	23		0	0
9121	Gillnet	9110	RC	11/10/91	1045	2	20	1.25	23	RBSM	1	0
9121	Gillnet	9110	RC	11/10/91	1045	3	20	1.63	23	ARCS	2	2
9121	Gillnet	9110	RC	11/10/91	1045	4	20	2.06	23	ARCS	1	1
9121	Gillnet	9110	RC	11/10/91	1045	4	20	2.06	23	RBSM	2	2
9121	Gillnet	9110	RC	11/10/91	1045	5	20	2.75	23		0	0
9121	Gillnet	9110	RC	11/10/91	1045	6	20	3.50	23		0	0
9122	Gillnet	9109	RC	11/10/91	1030	1	20	1.00	22		0	0
9122	Gillnet	9109	RC	11/10/91	1030	2	20	1.25	22		0	0
9122	Gillnet	9109	RC	11/10/91	1030	3	20	1.63	22	ARCS	1	1
9122	Gillnet	9109	RC	11/10/91	1030	4	20	2.06	22	FHSC	1	0
9122	Gillnet	9109	RC	11/10/91	1030	5	20	2.75	22		0	0
9122	Gillnet	9109	RC	11/10/91	1030	6	20	3.50	22		0	0
9201	Gillnet	9203	IL	10/30/92	1030	1	20	1.00	46.5		0	0
9201	Gillnet	9203	IL	10/30/92	1030	2	20	1.25	46.5	ARCS	1	1
9201	Gillnet	9203	IL	10/30/92	1030	2	20	1.25	46.5	LSCS	4	4
9201	Gillnet	9203	IL	10/30/92	1030	3	20	1.63	46.5	BDWF	1	1

Appendix Table 3. Catch data from 1991-1992 gillnet sampling in the Colville River Delta.

Set No.	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Panel Length (ft)	Mesh (in)	Fishing Duration (hours)	Species	Number Caught	Number Sampled
9201	Gillnet	9203	IL	10/30/92	1030	3	20	1.63	46.5	LSCS	6	6
9201	Gillnet	9203	IL	10/30/92	1030	4	20	2.06	46.5	LSCS	1	1
9201	Gillnet	9203	IL	10/30/92	1030	5	20	2.75	46.5	ARCS	2	2
9201	Gillnet	9203	IL	10/30/92	1030	6	20	3.50	46.5	ARCS	1	1
9202	Gillnet	9202	IL	10/30/92	1000	1	20	1.00	43.8		0	0
9202	Gillnet	9202	IL	10/30/92	1000	2	20	1.25	43.8		0	0
9202	Gillnet	9202	IL	10/30/92	1000	3	20	1.63	43.8		0	0
9202	Gillnet	9202	IL	10/30/92	1000	4	20	2.06	43.8		0	0
9202	Gillnet	9202	IL	10/30/92	1000	5	20	2.75	43.8		0	0
9202	Gillnet	9202	IL	10/30/92	1000	6	20	3.50	43.8		0	0
9203	Gillnet	9205	IL	10/31/92	1030	1	20	1.00	22.0		0	0
9203	Gillnet	9205	IL	10/31/92	1030	2	20	1.25	22.0		0	0
9203	Gillnet	9205	IL	10/31/92	1030	3	20	1.63	22.0		0	0
9203	Gillnet	9205	IL	10/31/92	1030	4	20	2.06	22.0	LSCS	1	1
9203	Gillnet	9205	IL	10/31/92	1030	5	20	2.75	22.0	LSCS	1	1
9203	Gillnet	9205	IL	10/31/92	1030	6	20	3.50	22.0		0	0
9204	Gillnet	9206	IL	10/31/92	1050	1	20	1.00	18.5		0	0
9204	Gillnet	9206	IL	10/31/92	1050	2	20	1.25	18.5		0	0
9204	Gillnet	9206	IL	10/31/92	1050	3	20	1.63	18.5		0	0
9204	Gillnet	9206	IL	10/31/92	1050	4	20	2.06	18.5	LSCS	11	11
9204	Gillnet	9206	IL	10/31/92	1050	5	20	2.75	18.5	ARCS	1	1
9204	Gillnet	9206	IL	10/31/92	1050	5	20	2.75	18.5	LSCS	5	5
9204	Gillnet	9206	IL	10/31/92	1050	6	20	3.50	18.5		0	0
9205	Gillnet	9207	TL	11/1/92	1600	1	20	1.00	27.5		0	0
9205	Gillnet	9207	TL	11/1/92	1600	2	20	1.25	27.5	HBWF	1	1
9205	Gillnet	9207	TL	11/1/92	1600	3	20	1.63	27.5		0	0
9205	Gillnet	9207	TL	11/1/92	1600	4	20	2.06	27.5		0	0
9205	Gillnet	9207	TL	11/1/92	1600	5	20	2.75	27.5	LSCS	3	3
9205	Gillnet	9207	TL	11/1/92	1600	5	20	2.75	27.5	ARCS	2	2
9205	Gillnet	9207	TL	11/1/92	1600	5	20	2.75	27.5	BDWF	2	2
9205	Gillnet	9207	TL	11/1/92	1600	6	20	3.50	27.5	BDWF	1	1
9205	Gillnet	9207	TL	11/1/92	1600	6	20	3.50	27.5	ARCS	1	1
9206	Gillnet	9208	IL	11/2/92	1100	1	20	1.00	23.0		0	0
9206	Gillnet	9208	IL	11/2/92	1100	2	20	1.25	23.0	ARCS	1	1
9206	Gillnet	9208	IL	11/2/92	1100	3	20	1.63	23.0		0	0
9206	Gillnet	9208	IL	11/2/92	1100	4	20	2.06	23.0		0	0
9206	Gillnet	9208	IL	11/2/92	1100	5	20	2.75	23.0	BDWF	1	1
9206	Gillnet	9208	IL	11/2/92	1100	6	20	3.50	23.0	HBWF	1	1
9207	Gillnet	9209	IL	11/2/92	1130	1	20	1.00	20.5		0	0
9207	Gillnet	9209	IL	11/2/92	1130	2	20	1.25	20.5		0	0
9207	Gillnet	9209	IL	11/2/92	1130	3	20	1.63	20.5	LSCS	3	3
9207	Gillnet	9209	IL	11/2/92	1130	4	20	2.06	20.5	LSCS	5	5
9207	Gillnet	9209	IL	11/2/92	1130	5	20	2.75	20.5	LSCS	4	4
9207	Gillnet	9209	IL	11/2/92	1130	6	20	3.50	20.5	BDWF	2	2
9208	Gillnet	9204	IL	11/3/92	1530	1	20	1.00	25.0		0	0
9208	Gillnet	9204	IL	11/3/92	1530	2	20	1.25	25.0	LSCS	1	1
9208	Gillnet	9204	IL	11/3/92	1530	3	20	1.63	25.0		0	0
9208	Gillnet	9204	IL	11/3/92	1530	4	20	2.06	25.0	LSCS	4	4
9208	Gillnet	9204	IL	11/3/92	1530	5	20	2.75	25.0	LSCS	8	8
9208	Gillnet	9204	IL	11/3/92	1530	6	20	3.50	25.0		0	0
9209	Gillnet	9210	IL	11/4/92	1700	1	20	1.00	30.5		0	0
9209	Gillnet	9210	IL	11/4/92	1700	2	20	1.25	30.5		0	0
9209	Gillnet	9210	IL	11/4/92	1700	3	20	1.63	30.5		0	0
9209	Gillnet	9210	IL	11/4/92	1700	4	20	2.06	30.5		0	0
9209	Gillnet	9210	IL	11/4/92	1700	5	20	2.75	30.5		0	0
9209	Gillnet	9210	IL	11/4/92	1700	6	20	3.50	30.5		0	0
9210	Gillnet	9211	IL	11/4/92	1630	1	20	1.00	26.0		0	0
9210	Gillnet	9211	IL	11/4/92	1630	2	20	1.25	26.0		0	0

Appendix Table 3. Catch data from 1991-1992 gillnet sampling in the Colville River Delta.

Set No.	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Panel Length (ft)	Mesh (in)	Fishing Duration (hours)	Species	Number Caught	Number Sampled
9210	Gillnet	9211	IL	11/4/92	1630	3	20	1.63	26.0		0	0
9210	Gillnet	9211	IL	11/4/92	1630	4	20	2.06	26.0		0	0
9210	Gillnet	9211	IL	11/4/92	1630	5	20	2.75	26.0	ARCS	4	4
9210	Gillnet	9211	IL	11/4/92	1630	5	20	2.75	26.0	LSCS	5	5
9210	Gillnet	9211	IL	11/4/92	1630	6	20	3.50	26.0	ARCS	4	4
9210	Gillnet	9211	IL	11/4/92	1630	6	20	3.50	26.0	LSCS	1	1
9211	Gillnet	9213	IL	11/5/92	1100	1	20	1.00	22.0		0	0
9211	Gillnet	9213	IL	11/5/92	1100	2	20	1.25	22.0	LSCS	2	2
9211	Gillnet	9213	IL	11/5/92	1100	3	20	1.63	22.0	LSCS	8	8
9211	Gillnet	9213	IL	11/5/92	1100	4	20	2.06	22.0	LSCS	34	34
9211	Gillnet	9213	IL	11/5/92	1100	5	20	2.75	22.0	LSCS	6	6
9211	Gillnet	9213	IL	11/5/92	1100	6	20	3.50	22.0		0	0
9212	Gillnet	9212	IL	11/5/92	1200	1	20	1.00	20.0	LSCS	1	1
9212	Gillnet	9212	IL	11/5/92	1200	2	20	1.25	20.0	LSCS	2	2
9212	Gillnet	9212	IL	11/5/92	1200	3	20	1.63	20.0	LSCS	5	5
9212	Gillnet	9212	IL	11/5/92	1200	4	20	2.06	20.0	LSCS	55	55
9212	Gillnet	9212	IL	11/5/92	1200	5	20	2.75	20.0	LSCS	24	24
9212	Gillnet	9212	IL	11/5/92	1200	6	20	3.50	20.0		0	0
9213	Gillnet	9201	TL	11/7/92	1130	1	20	1.00	23.0		0	0
9213	Gillnet	9201	TL	11/7/92	1130	2	20	1.25	23.0		0	0
9213	Gillnet	9201	TL	11/7/92	1130	3	20	1.63	23.0	ARCS	1	1
9213	Gillnet	9201	TL	11/7/92	1130	4	20	2.06	23.0		0	0
9213	Gillnet	9201	TL	11/7/92	1130	5	20	2.75	23.0		0	0
9213	Gillnet	9201	TL	11/7/92	1130	6	20	3.50	23.0	ARCS	1	1

Species:
ARCS = Arctic cisco
LSCS = least cisco
BDWF = broad whitefish
HBWF = humpback whitefish
RBSM = rainbow smelt
FHSC = fourhorn sculpin

Habitat:
RC = river channel
TL = lake connected to a river channel
IL = lake not connected to a river channel

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9101	Gillnet	9101	RC	11/2/91	1015	1	1	ARCS	129			
9101	Gillnet	9101	RC	11/2/91	1015	1	2	ARCS	134			
9101	Gillnet	9101	RC	11/2/91	1015	1	3	ARCS	130			
9101	Gillnet	9101	RC	11/2/91	1015	1	4	ARCS	110			
9101	Gillnet	9101	RC	11/2/91	1015	4	5	ARCS	274			
9101	Gillnet	9101	RC	11/2/91	1015	4	6	LSCS	262			
9101	Gillnet	9101	RC	11/2/91	1015	5	7	RBSM	279			
9101	Gillnet	9101	RC	11/2/91	1015	5	8	ARCS	288			
9101	Gillnet	9101	RC	11/2/91	1015	5	9	LSCS	250			
9101	Gillnet	9101	RC	11/2/91	1015	5	10	LSCS	261			
9102	Gillnet	9101	RC	11/3/91	1030	3	1	ARCS	190			3
9102	Gillnet	9101	RC	11/3/91	1030	2	2	ARCS	125			1
9102	Gillnet	9101	RC	11/3/91	1030	2	3	ARCS	124			1
9102	Gillnet	9101	RC	11/3/91	1030	1	4	ARCS	119			1
9102	Gillnet	9101	RC	11/3/91	1030	1	5	ARCS	123			1
9102	Gillnet	9101	RC	11/3/91	1030	1	6	ARCS	124			1
9102	Gillnet	9101	RC	11/3/91	1030	1	7	ARCS	116			1
9102	Gillnet	9101	RC	11/3/91	1030	1	8	ARCS	111			1
9102	Gillnet	9101	RC	11/3/91	1030	1	9	ARCS	121			1
9102	Gillnet	9101	RC	11/3/91	1030	1	10	ARCS	116			1
9102	Gillnet	9101	RC	11/3/91	1030	1	11	ARCS	112			1
9102	Gillnet	9101	RC	11/3/91	1030	1	12	ARCS	118			1
9102	Gillnet	9101	RC	11/3/91	1030	1	13	ARCS	120			1
9102	Gillnet	9101	RC	11/3/91	1030	1	14	ARCS	104			1
9102	Gillnet	9101	RC	11/3/91	1030	1	15	ARCS	121			1
9102	Gillnet	9101	RC	11/3/91	1030	1	16	ARCS	116			1
9102	Gillnet	9101	RC	11/3/91	1030	1	17	ARCS	122			1
9102	Gillnet	9101	RC	11/3/91	1030	1	18	ARCS	131			1
9102	Gillnet	9101	RC	11/3/91	1030	1	19	ARCS	112			1
9102	Gillnet	9101	RC	11/3/91	1030	1	20	ARCS	111			1
9102	Gillnet	9101	RC	11/3/91	1030	5	21	LSCS	285			11
9102	Gillnet	9101	RC	11/3/91	1030	5	22	LSCS	240			6
9102	Gillnet	9101	RC	11/3/91	1030	5	23	LSCS	241			6
9102	Gillnet	9101	RC	11/3/91	1030	5	24	LSCS	244			7
9102	Gillnet	9101	RC	11/3/91	1030	5	25	LSCS	245			6
9102	Gillnet	9101	RC	11/3/91	1030	5	26	ARCS	272			5
9102	Gillnet	9101	RC	11/3/91	1030	5	27	ARCS	251			5
9102	Gillnet	9101	RC	11/3/91	1030	5	28	ARCS	287			5
9102	Gillnet	9101	RC	11/3/91	1030	5	29	ARCS	251			4
9102	Gillnet	9101	RC	11/3/91	1030	5	30	ARCS	246			4
9102	Gillnet	9101	RC	11/3/91	1030	5	31	RBSM	282			
9103	Gillnet	9102	TL	11/3/91	1030	4	1	RBSM	264			
9103	Gillnet	9102	TL	11/3/91	1030	4	2	RBSM	272			
9103	Gillnet	9102	TL	11/3/91	1030	4	3	RBSM	265			
9104	Gillnet	9103	RC	11/3/91	1115	1	1	ARCS	132			1
9104	Gillnet	9103	RC	11/3/91	1115	1	2	ARCS	121			1
9104	Gillnet	9103	RC	11/3/91	1115	1	3	ARCS	125			1
9104	Gillnet	9103	RC	11/3/91	1115	1	4	ARCS	123			1

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9104	Gillnet	9103	RC	11/3/91	1115	1	5	ARCS	132			1
9104	Gillnet	9103	RC	11/3/91	1115	1	6	ARCS	126			1
9104	Gillnet	9103	RC	11/3/91	1115	1	7	ARCS	127			1
9104	Gillnet	9103	RC	11/3/91	1115	1	8	ARCS	114			1
9104	Gillnet	9103	RC	11/3/91	1115	1	9	ARCS	132			1
9104	Gillnet	9103	RC	11/3/91	1115	1	10	ARCS	123			1
9104	Gillnet	9103	RC	11/3/91	1115	1	11	ARCS	121			1
9104	Gillnet	9103	RC	11/3/91	1115	1	12	ARCS	122			1
9104	Gillnet	9103	RC	11/3/91	1115	1	13	ARCS	111			1
9104	Gillnet	9103	RC	11/3/91	1115	2	14	ARCS	134			1
9104	Gillnet	9103	RC	11/3/91	1115	2	15	LSCS	142			2
9104	Gillnet	9103	RC	11/3/91	1115	2	16	LSCS	141			2
9104	Gillnet	9103	RC	11/3/91	1115	3	17	LSCS	164			3
9104	Gillnet	9103	RC	11/3/91	1115	3	18	ARCS	182			3
9104	Gillnet	9103	RC	11/3/91	1115	3	19	ARCS	171			3
9104	Gillnet	9103	RC	11/3/91	1115	4	20	ARCS	222			4
9104	Gillnet	9103	RC	11/3/91	1115	4	21	ARCS	250			4
9104	Gillnet	9103	RC	11/3/91	1115	4	22	LSCS	283			10
9104	Gillnet	9103	RC	11/3/91	1115	5	23	ARCS	292			5
9104	Gillnet	9103	RC	11/3/91	1115	5	24	ARCS	286			5
9104	Gillnet	9103	RC	11/3/91	1115	5	25	ARCS	307			5
9104	Gillnet	9103	RC	11/3/91	1115	5	26	ARCS	272			5
9104	Gillnet	9103	RC	11/3/91	1115	5	27	LSCS	278			9
9104	Gillnet	9103	RC	11/3/91	1115	5	28	LSCS	310			10
9104	Gillnet	9103	RC	11/3/91	1115	5	29	LSCS	289			9
9104	Gillnet	9103	RC	11/3/91	1115	5	30	LSCS	292			8
9104	Gillnet	9103	RC	11/3/91	1115	5	31	LSCS	304			12
9104	Gillnet	9103	RC	11/3/91	1115	5	32	LSCS	285			12
9104	Gillnet	9103	RC	11/3/91	1115	5	33	LSCS	310			8
9104	Gillnet	9103	RC	11/3/91	1115	5	34	LSCS	297			10
9104	Gillnet	9103	RC	11/3/91	1115	5	35	LSCS	315			12
9105	Gillnet	9102	TL	11/5/91	1030	1	1	RBSM	137			
9105	Gillnet	9102	TL	11/5/91	1030	1	2	RBSM	204			
9105	Gillnet	9102	TL	11/5/91	1030	3	3	RBSM	231			
9105	Gillnet	9102	TL	11/5/91	1030	2	4	RBSM	223			
9105	Gillnet	9102	TL	11/5/91	1030	4	5	RBSM	267			
9105	Gillnet	9102	TL	11/5/91	1030	4	6	RBSM	274			
9105	Gillnet	9102	TL	11/5/91	1030	4	7	RBSM	278			
9105	Gillnet	9102	TL	11/5/91	1030	4	8	RBSM	253			
9105	Gillnet	9102	TL	11/5/91	1030	4	9	RBSM	274			
9105	Gillnet	9102	TL	11/5/91	1030	4	10	RBSM	274			
9105	Gillnet	9102	TL	11/5/91	1030	4	11	ARCS	252			4
9105	Gillnet	9102	TL	11/5/91	1030	4	12	ARCS	241			4
9106	Gillnet	9104	RC	11/5/91	1400	1	1	ARCS	135			1
9106	Gillnet	9104	RC	11/5/91	1400	1	2	ARCS	116			1
9106	Gillnet	9104	RC	11/5/91	1400	3	3	ARCS	178			3
9106	Gillnet	9104	RC	11/5/91	1400	3	4	ARCS	182			3
9106	Gillnet	9104	RC	11/5/91	1400	3	5	ARCS	180			3

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9106	Gillnet	9104	RC	11/5/91	1400	3	6	LSCS	170			3
9106	Gillnet	9104	RC	11/5/91	1400	3	7	LSCS	220			5
9106	Gillnet	9104	RC	11/5/91	1400	4	8	LSCS	271			8
9106	Gillnet	9104	RC	11/5/91	1400	4	9	ARCS	268			5
9106	Gillnet	9104	RC	11/5/91	1400	4	10	ARCS	275			5
9106	Gillnet	9104	RC	11/5/91	1400	4	11	ARCS	211			3
9107	Gillnet	9105	TL	11/5/91	1500	4	1	LSCS	305			13
9107	Gillnet	9105	TL	11/5/91	1500	4	2	LSCS	266			9
9107	Gillnet	9105	TL	11/5/91	1500	4	3	LSCS	302			11
9107	Gillnet	9105	TL	11/5/91	1500	5	4	ARCS	304			6
9107	Gillnet	9105	TL	11/5/91	1500	5	5	ARCS	282			5
9108	Gillnet	9106	TL	11/6/91	1000	1	1	LSCS	126			2
9108	Gillnet	9106	TL	11/6/91	1000	1	2	LSCS	117			2
9108	Gillnet	9106	TL	11/6/91	1000	1	3	LSCS	106			2
9108	Gillnet	9106	TL	11/6/91	1000	5	4	BDWF	313			13
9108	Gillnet	9106	TL	11/6/91	1000	5	5	BDWF	335			11
9108	Gillnet	9106	TL	11/6/91	1000	5	6	BDWF	312			10
9108	Gillnet	9106	TL	11/6/91	1000	5	6	LSCS	327			20
9108	Gillnet	9106	TL	11/6/91	1000	6	8	BDWF	453			17
9108	Gillnet	9106	TL	11/6/91	1000	4	9	LSCS	300			12
9109	Gillnet	9107	TL	11/6/91	1040	3	1	LSCS	220			5
9109	Gillnet	9107	TL	11/6/91	1040	3	2	HBWF	164			2
9109	Gillnet	9107	TL	11/6/91	1040	1	3	LSCS	151			2
9109	Gillnet	9107	TL	11/6/91	1040	1	4	ARCS	114			1
9109	Gillnet	9107	TL	11/6/91	1040	1	5	ARCS	124			1
9109	Gillnet	9107	TL	11/6/91	1040	5	6	BDWF	350			9
9109	Gillnet	9107	TL	11/6/91	1040	5	7	BDWF	343			9
9109	Gillnet	9107	TL	11/6/91	1040	5	8	LSCS	304			18
9109	Gillnet	9107	TL	11/6/91	1040	5	9	LSCS	276			6
9109	Gillnet	9107	TL	11/6/91	1040	5	10	LSCS	335			10
9109	Gillnet	9107	TL	11/6/91	1040	5	11	LSCS	292			9
9109	Gillnet	9107	TL	11/6/91	1040	5	12	LSCS	320			15
9109	Gillnet	9107	TL	11/6/91	1040	5	13	LSCS	310			11
9109	Gillnet	9107	TL	11/6/91	1040	5	14	LSCS	319			8
9109	Gillnet	9107	TL	11/6/91	1040	6	15	BDWF	370			11
9109	Gillnet	9107	TL	11/6/91	1040	6	16	BDWF	368			13
9109	Gillnet	9107	TL	11/6/91	1040	4	17	LSCS	286			11
9109	Gillnet	9107	TL	11/6/91	1040	4	18	LSCS	272			7
9109	Gillnet	9107	TL	11/6/91	1040	4	19	LSCS	238			9
9109	Gillnet	9107	TL	11/6/91	1040	4	20	LSCS	211			14
9109	Gillnet	9107	TL	11/6/91	1040	4	21	ARCS	245			5
9110	Gillnet	9104	RC	11/6/91	1115	6	1	ARCS	350			8
9110	Gillnet	9104	RC	11/6/91	1115	6	2	RBSM	251			
9110	Gillnet	9104	RC	11/6/91	1115	4	3	RBSM	260			
9110	Gillnet	9104	RC	11/6/91	1115	4	4	ARCS	245			4
9110	Gillnet	9104	RC	11/6/91	1115	5	5	ARCS	315			5
9110	Gillnet	9104	RC	11/6/91	1115	5	6	ARCS	276			5
9111	Gillnet	9105	TL	11/6/91	1145	3	1	RBSM	265			

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9111	Gillnet	9105	TL	11/6/91	1145	4	2	RBSM	264			
9111	Gillnet	9105	TL	11/6/91	1145	4	3	ARCS	244			4
9111	Gillnet	9105	TL	11/6/91	1145	4	4	ARCS	297			5
9111	Gillnet	9105	TL	11/6/91	1145	5	5	LSCS	285			9
9111	Gillnet	9105	TL	11/6/91	1145	5	6	LSCS	294			11
9111	Gillnet	9105	TL	11/6/91	1145	5	7	LSCS	274			8
9112	Gillnet	9106	TL	11/7/91	1000	5	1	LSCS	328			10
9112	Gillnet	9106	TL	11/7/91	1000	5	2	LSCS	328			15
9112	Gillnet	9106	TL	11/7/91	1000	5	3	BDWF	310			7
9113	Gillnet	9104	RC	11/7/91	1020	1	1	ARCS	123			1
9113	Gillnet	9104	RC	11/7/91	1020	1	2	LSCS	108			1
9113	Gillnet	9104	RC	11/7/91	1020	4	3	RBSM	252			
9113	Gillnet	9104	RC	11/7/91	1020	4	4	LSCS	253			5
9116	Gillnet	9109	RC	11/7/91	1115	5	1	ARCS	286			5
9116	Gillnet	9109	RC	11/7/91	1115	4	2	RBSM	268			
9116	Gillnet	9109	RC	11/7/91	1115	4	3	RBSM	260			
9116	Gillnet	9109	RC	11/7/91	1115	4	4	RBSM	291			
9116	Gillnet	9109	RC	11/7/91	1115	4	5	ARCS	264			4
9116	Gillnet	9109	RC	11/7/91	1115	4	6	ARCS	232			5
9116	Gillnet	9109	RC	11/7/91	1115	3	7	LSCS	211			5
9116	Gillnet	9109	RC	11/7/91	1115	3	8	LSCS	216			5
9116	Gillnet	9109	RC	11/7/91	1115	3	9	LSCS	174			3
9116	Gillnet	9109	RC	11/7/91	1115	3	10	LSCS	179			3
9116	Gillnet	9109	RC	11/7/91	1115	3	11	ARCS	191			3
9116	Gillnet	9109	RC	11/7/91	1115	3	12	ARCS	163			2
9116	Gillnet	9109	RC	11/7/91	1115	2	13	LSCS	171			3
9116	Gillnet	9109	RC	11/7/91	1115	2	14	LSCS	146			2
9116	Gillnet	9109	RC	11/7/91	1115	1	15	ARCS	117			1
9116	Gillnet	9109	RC	11/7/91	1115	1	16	ARCS	121			1
9118	Gillnet	9109	RC	11/9/91	1215	3	1	RBSM	231			
9118	Gillnet	9109	RC	11/9/91	1215	3	2	LSCS	272			12
9118	Gillnet	9109	RC	11/9/91	1215	3	3	ARCS	270			4
9118	Gillnet	9109	RC	11/9/91	1215	3	4	ARCS	182			3
9118	Gillnet	9109	RC	11/9/91	1215	3	5	ARCS	172			2
9118	Gillnet	9109	RC	11/9/91	1215	3	6	ARCS	180			3
9118	Gillnet	9109	RC	11/9/91	1215	4	7	RBSM	274			
9118	Gillnet	9109	RC	11/9/91	1215	4	8	RBSM	268			
9118	Gillnet	9109	RC	11/9/91	1215	4	9	RBSM	270			
9118	Gillnet	9109	RC	11/9/91	1215	4	10	LSCS	232			6
9118	Gillnet	9109	RC	11/9/91	1215	4	11	ARCS	262			4
9118	Gillnet	9109	RC	11/9/91	1215	5	12	ARCS	227			6
9118	Gillnet	9109	RC	11/9/91	1215	5	13	LSCS	294			11
9118	Gillnet	9109	RC	11/9/91	1215	5	14	LSCS	287			8
9118	Gillnet	9109	RC	11/9/91	1215	5	15	LSCS	291			11
9118	Gillnet	9109	RC	11/9/91	1215	2	16	ARCS	122			1
9118	Gillnet	9109	RC	11/9/91	1215	2	17	ARCS	126			1
9119	Gillnet	9110	RC	11/9/91	1145	2	1	RBSM	152			
9119	Gillnet	9110	RC	11/9/91	1145	4	2	RBSM	264			

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9119	Gillnet	9110	RC	11/9/91	1145	4	3	RBSM	266			
9119	Gillnet	9110	RC	11/9/91	1145	4	4	ARCS	271			4
9119	Gillnet	9110	RC	11/9/91	1145	4	5	ARCS	280			4
9119	Gillnet	9110	RC	11/9/91	1145	4	6	ARCS	264			5
9119	Gillnet	9110	RC	11/9/91	1145	4	7	ARCS	279			5
9119	Gillnet	9110	RC	11/9/91	1145	4	8	ARCS	228			4
9119	Gillnet	9110	RC	11/9/91	1145	4	9	ARCS	223			4
9119	Gillnet	9110	RC	11/9/91	1145	4	10	ARCS	246			4
9119	Gillnet	9110	RC	11/9/91	1145	4	11	ARCS	237			4
9119	Gillnet	9110	RC	11/9/91	1145	4	12	ARCS	255			4
9119	Gillnet	9110	RC	11/9/91	1145	4	13	ARCS	244			5
9119	Gillnet	9110	RC	11/9/91	1145	3	14	RBSM	215			
9119	Gillnet	9110	RC	11/9/91	1145	3	15	RBSM	235			
9119	Gillnet	9110	RC	11/9/91	1145	3	16	RBSM	226			
9119	Gillnet	9110	RC	11/9/91	1145	3	17	RBSM	207			
9119	Gillnet	9110	RC	11/9/91	1145	3	18	RBSM	250			
9119	Gillnet	9110	RC	11/9/91	1145	5	19	ARCS	283			4
9119	Gillnet	9110	RC	11/9/91	1145	5	20	ARCS	321			6
9119	Gillnet	9110	RC	11/9/91	1145	5	21	ARCS	311			6
9119	Gillnet	9110	RC	11/9/91	1145	5	22	ARCS	296			5
9120	Gillnet	9111	IL	11/9/91	1045	3	1	LSCS	229			9
9120	Gillnet	9111	IL	11/9/91	1045	3	2	LSCS	255			11
9120	Gillnet	9111	IL	11/9/91	1045	3	3	LSCS	246			10
9120	Gillnet	9111	IL	11/9/91	1045	3	4	LSCS	236	M	1	9
9120	Gillnet	9111	IL	11/9/91	1045	3	5	LSCS	240	F	5	9
9120	Gillnet	9111	IL	11/9/91	1045	3	6	LSCS	213			5
9120	Gillnet	9111	IL	11/9/91	1045	3	7	LSCS	248	M		16
9120	Gillnet	9111	IL	11/9/91	1045	3	8	LSCS	242	F		10
9120	Gillnet	9111	IL	11/9/91	1045	3	9	LSCS	234	F		8
9120	Gillnet	9111	IL	11/9/91	1045	3	10	LSCS	250	F		11
9120	Gillnet	9111	IL	11/9/91	1045	3	11	LSCS	250	M		9
9120	Gillnet	9111	IL	11/9/91	1045	3	12	LSCS	226	F	1	8
9120	Gillnet	9111	IL	11/9/91	1045	3	13	LSCS	224	M	1	12
9120	Gillnet	9111	IL	11/9/91	1045	3	14	LSCS	235	M		8
9120	Gillnet	9111	IL	11/9/91	1045	3	15	LSCS	246	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	16	LSCS	247	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	17	LSCS	248	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	3	18	LSCS	240	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	19	LSCS	240	F	5	10
9120	Gillnet	9111	IL	11/9/91	1045	3	20	LSCS	250	F	5	10
9120	Gillnet	9111	IL	11/9/91	1045	3	21	LSCS	221	M	1	9
9120	Gillnet	9111	IL	11/9/91	1045	3	22	LSCS	236	F	2	9
9120	Gillnet	9111	IL	11/9/91	1045	3	23	LSCS	245	M	2	8
9120	Gillnet	9111	IL	11/9/91	1045	3	24	LSCS	232	F	1	11
9120	Gillnet	9111	IL	11/9/91	1045	3	25	LSCS	194	J	1	5
9120	Gillnet	9111	IL	11/9/91	1045	3	26	LSCS	210	F	1	5
9120	Gillnet	9111	IL	11/9/91	1045	3	27	LSCS	248	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	28	LSCS	194	J	1	6

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9120	Gillnet	9111	IL	11/9/91	1045	3	29	LSCS	236	M	1	9
9120	Gillnet	9111	IL	11/9/91	1045	3	30	LSCS	251	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	31	LSCS	216	M	1	7
9120	Gillnet	9111	IL	11/9/91	1045	3	32	LSCS	242	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	3	33	LSCS	242	F	3	12
9120	Gillnet	9111	IL	11/9/91	1045	3	34	LSCS	263	F	5	13
9120	Gillnet	9111	IL	11/9/91	1045	3	35	LSCS	245	M	2	10
9120	Gillnet	9111	IL	11/9/91	1045	3	36	LSCS	246	M	2	9
9120	Gillnet	9111	IL	11/9/91	1045	3	37	LSCS	193	J	1	4
9120	Gillnet	9111	IL	11/9/91	1045	3	38	LSCS	193	M	1	4
9120	Gillnet	9111	IL	11/9/91	1045	3	39	LSCS	212	F	1	5
9120	Gillnet	9111	IL	11/9/91	1045	3	40	LSCS	196	J	1	5
9120	Gillnet	9111	IL	11/9/91	1045	3	41	LSCS	179	J	1	4
9120	Gillnet	9111	IL	11/9/91	1045	3	42	LSCS	252	F	2	9
9120	Gillnet	9111	IL	11/9/91	1045	3	43	LSCS	245	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	44	LSCS	206	F	1	4
9120	Gillnet	9111	IL	11/9/91	1045	3	45	LSCS	240	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	3	46	LSCS	242	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	3	47	LSCS	246	F	3	12
9120	Gillnet	9111	IL	11/9/91	1045	3	48	LSCS	251	M	2	13
9120	Gillnet	9111	IL	11/9/91	1045	3	49	LSCS	232	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	3	50	LSCS	246	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	3	51	LSCS	237	M	2	9
9120	Gillnet	9111	IL	11/9/91	1045	3	52	LSCS	242	F	1	9
9120	Gillnet	9111	IL	11/9/91	1045	3	53	LSCS	210	J	1	6
9120	Gillnet	9111	IL	11/9/91	1045	3	54	LSCS	241	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	1	55	LSCS	145	J	1	
9120	Gillnet	9111	IL	11/9/91	1045	1	56	LSCS	125	J	1	2
9120	Gillnet	9111	IL	11/9/91	1045	5	57	LSCS	340	F	5	13
9120	Gillnet	9111	IL	11/9/91	1045	5	58	LSCS	276	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	5	59	LSCS	328	F	3	14
9120	Gillnet	9111	IL	11/9/91	1045	5	60	LSCS	276	M	2	17
9120	Gillnet	9111	IL	11/9/91	1045	5	61	LSCS	280	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	5	62	LSCS	296	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	5	63	LSCS	316	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	5	64	LSCS	325	M	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	65	LSCS	260	F	2	9
9120	Gillnet	9111	IL	11/9/91	1045	4	66	LSCS	241	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	67	LSCS	236	F	1	11
9120	Gillnet	9111	IL	11/9/91	1045	4	68	LSCS	240	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	69	LSCS	236	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	70	LSCS	260	M	3	12
9120	Gillnet	9111	IL	11/9/91	1045	4	71	LSCS	245	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	72	LSCS	291	M	2	13
9120	Gillnet	9111	IL	11/9/91	1045	4	73	LSCS	240	F	2	10
9120	Gillnet	9111	IL	11/9/91	1045	4	74	LSCS	296	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	75	LSCS	248	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	76	LSCS	233	F	3	9

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9120	Gillnet	9111	IL	11/9/91	1045	4	77	LSCS	244	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	78	LSCS	252	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	79	LSCS	246	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	80	LSCS	256	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	81	LSCS	241	F	3	10
9120	Gillnet	9111	IL	11/9/91	1045	4	82	LSCS	249	F	5	11
9120	Gillnet	9111	IL	11/9/91	1045	4	83	LSCS	244	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	84	LSCS	250	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	85	LSCS	243	F	3	12
9120	Gillnet	9111	IL	11/9/91	1045	4	86	LSCS	246	F	1	11
9120	Gillnet	9111	IL	11/9/91	1045	4	87	LSCS	261	F	1	12
9120	Gillnet	9111	IL	11/9/91	1045	4	88	LSCS	242	M	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	89	LSCS	275	M	2	13
9120	Gillnet	9111	IL	11/9/91	1045	4	90	LSCS	266	F	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	91	LSCS	242	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	92	LSCS	291	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	93	LSCS	245	F	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	94	LSCS	233	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	95	LSCS	242	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	96	LSCS	250	M	1	12
9120	Gillnet	9111	IL	11/9/91	1045	4	97	LSCS	260	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	98	LSCS	251	M	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	99	LSCS	264	F	3	12
9120	Gillnet	9111	IL	11/9/91	1045	4	100	LSCS	235	M	3	7
9120	Gillnet	9111	IL	11/9/91	1045	4	101	LSCS	268	F	3	13
9120	Gillnet	9111	IL	11/9/91	1045	4	102	LSCS	245	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	103	LSCS	236	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	104	LSCS	253	F	2	13
9120	Gillnet	9111	IL	11/9/91	1045	4	105	LSCS	258	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	106	LSCS	276	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	4	107	LSCS	261	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	108	LSCS	255	F	3	12
9120	Gillnet	9111	IL	11/9/91	1045	4	109	LSCS	246	M	2	14
9120	Gillnet	9111	IL	11/9/91	1045	4	110	LSCS	246	M	2	9
9120	Gillnet	9111	IL	11/9/91	1045	4	111	LSCS	246	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	112	LSCS	250	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	113	LSCS	254	M	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	114	LSCS	251	M	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	115	LSCS	249	F	2	11
9120	Gillnet	9111	IL	11/9/91	1045	4	116	LSCS	251	F	3	11
9120	Gillnet	9111	IL	11/9/91	1045	4	117	LSCS	248	F	2	12
9120	Gillnet	9111	IL	11/9/91	1045	4	118	LSCS	245	F	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	119	LSCS	243	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	4	120	LSCS	252	M	5	
9120	Gillnet	9111	IL	11/9/91	1045	4	121	LSCS	256	F	5	
9120	Gillnet	9111	IL	11/9/91	1045	4	122	LSCS	241	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	123	LSCS	243	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	124	LSCS	254	M	2	

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9120	Gillnet	9111	IL	11/9/91	1045	4	125	LSCS	244	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	126	LSCS	246	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	127	LSCS	260	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	128	LSCS	244	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	129	LSCS	233	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	130	LSCS	244	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	131	LSCS	229	F	1	
9120	Gillnet	9111	IL	11/9/91	1045	4	132	LSCS	251	M	1	
9120	Gillnet	9111	IL	11/9/91	1045	4	133	LSCS	234	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	134	LSCS	237	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	135	LSCS	262	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	136	LSCS	234	F	1	
9120	Gillnet	9111	IL	11/9/91	1045	4	137	LSCS	249	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	138	LSCS	250	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	4	139	LSCS	243	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	140	LSCS	241			
9120	Gillnet	9111	IL	11/9/91	1045	4	141	LSCS	258	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	142	LSCS	252	M	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	143	LSCS	235	M	3	
9120	Gillnet	9111	IL	11/9/91	1045	4	144	LSCS	244	F	5	
9120	Gillnet	9111	IL	11/9/91	1045	4	145	LSCS	256	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	4	146	LSCS	239	F	3	
9120	Gillnet	9111	IL	11/9/91	1045	4	147	LSCS	246	F	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	148	LSCS	261	F	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	149	LSCS	254	F	2	
9120	Gillnet	9111	IL	11/9/91	1045	4	150	LSCS	234	F	5	
9121	Gillnet	9110	RC	11/10/91	1045	2	1	RBSM	184			
9121	Gillnet	9110	RC	11/10/91	1045	3	2	ARCS	206			
9121	Gillnet	9110	RC	11/10/91	1045	3	3	ARCS	192			
9121	Gillnet	9110	RC	11/10/91	1045	4	4	ARCS	291			
9121	Gillnet	9110	RC	11/10/91	1045	4	5	RBSM	260			
9121	Gillnet	9110	RC	11/10/91	1045	4	6	RBSM	285			
9122	Gillnet	9109	RC	11/10/91	1030	3	1	ARCS	176			
9201	Gillnet	9203	IL	10/30/92	1030	2	1	ARCS	160	I	1	3
9201	Gillnet	9203	IL	10/30/92	1030	2	2	LSCS	187	M	1	4
9201	Gillnet	9203	IL	10/30/92	1030	2	3	LSCS	200	F	1	4
9201	Gillnet	9203	IL	10/30/92	1030	2	4	LSCS	175	F	1	3
9201	Gillnet	9203	IL	10/30/92	1030	2	5	LSCS	150	M	1	3
9201	Gillnet	9203	IL	10/30/92	1030	3	6	BDWF	183	F	1	3
9201	Gillnet	9203	IL	10/30/92	1030	3	7	LSCS	240	F	2	7
9201	Gillnet	9203	IL	10/30/92	1030	3	8	LSCS	200	F	2	4
9201	Gillnet	9203	IL	10/30/92	1030	3	9	LSCS	202	F	1	6
9201	Gillnet	9203	IL	10/30/92	1030	3	10	LSCS	194	M	1	6
9201	Gillnet	9203	IL	10/30/92	1030	3	11	LSCS	190	M	2	7
9201	Gillnet	9203	IL	10/30/92	1030	3	12	LSCS	182	M	2	5
9201	Gillnet	9203	IL	10/30/92	1030	4	13	LSCS	303	F	5	14
9201	Gillnet	9203	IL	10/30/92	1030	5	14	ARCS	343	M	5	15
9201	Gillnet	9203	IL	10/30/92	1030	5	15	ARCS	357	F	5	10

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9201	Gillnet	9203	IL	10/30/92	1030	6	16	ARCS	363	M	5	14
9203	Gillnet	9205	IL	10/31/92	1030	4	1	LSCS	280	F	4	13
9203	Gillnet	9205	IL	10/31/92	1030	5	2	LSCS	290	M	5	12
9204	Gillnet	9206	IL	10/31/92	1050	5	1	ARCS	380	F	4	12
9204	Gillnet	9206	IL	10/31/92	1050	5	2	LSCS	294	F	5	13
9204	Gillnet	9206	IL	10/31/92	1050	5	3	LSCS	249	F	4	11
9204	Gillnet	9206	IL	10/31/92	1050	5	4	LSCS	303	F	4	11
9204	Gillnet	9206	IL	10/31/92	1050	5	5	LSCS	301	F	4	13
9204	Gillnet	9206	IL	10/31/92	1050	5	6	LSCS	289	M	5	13
9204	Gillnet	9206	IL	10/31/92	1050	4	7	LSCS	298	M	5	12
9204	Gillnet	9206	IL	10/31/92	1050	4	8	LSCS	284	M	5	9
9204	Gillnet	9206	IL	10/31/92	1050	4	9	LSCS	290	M	5	13
9204	Gillnet	9206	IL	10/31/92	1050	4	10	LSCS	276	M	5	8
9204	Gillnet	9206	IL	10/31/92	1050	4	11	LSCS	270	F	5	8
9204	Gillnet	9206	IL	10/31/92	1050	4	12	LSCS	281	M	5	12
9204	Gillnet	9206	IL	10/31/92	1050	4	13	LSCS	287	M	5	12
9204	Gillnet	9206	IL	10/31/92	1050	4	14	LSCS	290	M	5	8
9204	Gillnet	9206	IL	10/31/92	1050	4	15	LSCS	275	M	5	8
9204	Gillnet	9206	IL	10/31/92	1050	4	16	LSCS	272	M	5	10
9204	Gillnet	9206	IL	10/31/92	1050	4	17	LSCS	282			8
9205	Gillnet	9207	TL	11/1/92	1600	6	1	BDWF	505	M	2	13
9205	Gillnet	9207	TL	11/1/92	1600	6	2	ARCS	429	F	5	12
9205	Gillnet	9207	TL	11/1/92	1600	2	3	HBWF	168	I	1	3
9205	Gillnet	9207	TL	11/1/92	1600	5	4	LSCS	331	M	4	13
9205	Gillnet	9207	TL	11/1/92	1600	5	5	LSCS	353	F	5	15
9205	Gillnet	9207	TL	11/1/92	1600	5	6	LSCS	303	M	4	
9205	Gillnet	9207	TL	11/1/92	1600	5	7	ARCS	385	M	5	9
9205	Gillnet	9207	TL	11/1/92	1600	5	8	ARCS	372	F	5	13
9205	Gillnet	9207	TL	11/1/92	1600	5	9	BDWF	398	M	2	6
9205	Gillnet	9207	TL	11/1/92	1600	5	10	BDWF	475	F	5	12
9206	Gillnet	9208	IL	11/2/92	1100	2	1	ARCS	157	I	1	2
9206	Gillnet	9208	IL	11/2/92	1100	5	2	BDWF	354	F	2	12
9206	Gillnet	9208	IL	11/2/92	1100	5	3	HBWF	420	F	5	19
9207	Gillnet	9209	IL	11/2/92	1130	3	1	LSCS	224	M	2	5
9207	Gillnet	9209	IL	11/2/92	1130	3	2	LSCS	199	F	2	6
9207	Gillnet	9209	IL	11/2/92	1130	3	3	LSCS	207	M	2	6
9207	Gillnet	9209	IL	11/2/92	1130	4	4	LSCS	282	F	5	12
9207	Gillnet	9209	IL	11/2/92	1130	4	5	LSCS	273	M	5	10
9207	Gillnet	9209	IL	11/2/92	1130	4	6	LSCS	283	F	5	12
9207	Gillnet	9209	IL	11/2/92	1130	4	7	LSCS	260	M	2	6
9207	Gillnet	9209	IL	11/2/92	1130	4	8	LSCS	253	M	5	12
9207	Gillnet	9209	IL	11/2/92	1130	5	9	LSCS	326	F	4	17
9207	Gillnet	9209	IL	11/2/92	1130	5	10	LSCS	300	M	4	12
9207	Gillnet	9209	IL	11/2/92	1130	5	11	LSCS	281	M	5	11
9207	Gillnet	9209	IL	11/2/92	1130	5	12	LSCS	306	M	5	12
9207	Gillnet	9209	IL	11/2/92	1130	6	13	BDWF	497	M	5	20
9207	Gillnet	9209	IL	11/2/92	1130	6	14	BDWF	415	M	2	14
9208	Gillnet	9204	IL	11/3/92	1530	2	1	LSCS	188	M	1	4

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9208	Gillnet	9204	IL	11/3/92	1530	4	2	LSCS	274	F	5	13
9208	Gillnet	9204	IL	11/3/92	1530	4	3	LSCS	285	F	5	13
9208	Gillnet	9204	IL	11/3/92	1530	4	4	LSCS	293	F	4	12
9208	Gillnet	9204	IL	11/3/92	1530	4	5	LSCS	275	M	4	12
9208	Gillnet	9204	IL	11/3/92	1530	5	6	LSCS	349	F	5	11
9208	Gillnet	9204	IL	11/3/92	1530	5	7	LSCS	280	M	5	13
9208	Gillnet	9204	IL	11/3/92	1530	5	8	LSCS	280	M	5	13
9208	Gillnet	9204	IL	11/3/92	1530	5	9	LSCS	298	F	5	12
9208	Gillnet	9204	IL	11/3/92	1530	5	10	LSCS	273	M	5	9
9208	Gillnet	9204	IL	11/3/92	1530	5	11	LSCS	296	F	5	12
9208	Gillnet	9204	IL	11/3/92	1530	5	12	LSCS	268	M	5	13
9208	Gillnet	9204	IL	11/3/92	1530	5	13	LSCS	291	F	5	11
9210	Gillnet	9211	IL	11/4/92	1630	6	1	ARCS	430	F	2	18
9210	Gillnet	9211	IL	11/4/92	1630	6	2	ARCS	422	M	2	15
9210	Gillnet	9211	IL	11/4/92	1630	6	3	LSCS	403	F	4	16
9210	Gillnet	9211	IL	11/4/92	1630	6	4	ARCS	414	M	2	15
9210	Gillnet	9211	IL	11/4/92	1630	6	5	ARCS	396	M	2	16
9210	Gillnet	9211	IL	11/4/92	1630	5	6	ARCS	320	M	3	8
9210	Gillnet	9211	IL	11/4/92	1630	5	7	ARCS	415	M	2	16
9210	Gillnet	9211	IL	11/4/92	1630	5	8	ARCS	408	M	2	17
9210	Gillnet	9211	IL	11/4/92	1630	5	9	ARCS	390	M	2	18
9210	Gillnet	9211	IL	11/4/92	1630	5	10	LSCS	375	M	4	14
9210	Gillnet	9211	IL	11/4/92	1630	5	11	LSCS	374	M	5	20
9210	Gillnet	9211	IL	11/4/92	1630	5	12	LSCS	367	M	4	15
9210	Gillnet	9211	IL	11/4/92	1630	5	13	LSCS	325	M	4	17
9210	Gillnet	9211	IL	11/4/92	1630	5	14	LSCS	275	M	2	6
9211	Gillnet	9213	IL	11/5/92	1100	2	1	LSCS	254	M	2	10
9211	Gillnet	9213	IL	11/5/92	1100	2	2	LSCS	186	F	2	4
9211	Gillnet	9213	IL	11/5/92	1100	3	3	LSCS	258	M	2	12
9211	Gillnet	9213	IL	11/5/92	1100	3	4	LSCS	206	F	2	5
9211	Gillnet	9213	IL	11/5/92	1100	3	5	LSCS	261	M	5	13
9211	Gillnet	9213	IL	11/5/92	1100	3	6	LSCS	262	F	2	11
9211	Gillnet	9213	IL	11/5/92	1100	3	7	LSCS	250	M	2	12
9211	Gillnet	9213	IL	11/5/92	1100	3	8	LSCS	187	F	2	5
9211	Gillnet	9213	IL	11/5/92	1100	3	9	LSCS	255	M	2	11
9211	Gillnet	9213	IL	11/5/92	1100	3	10	LSCS	254	F	2	11
9211	Gillnet	9213	IL	11/5/92	1100	5	11	LSCS	337	F	4	15
9211	Gillnet	9213	IL	11/5/92	1100	5	12	LSCS	310	M	4	17
9211	Gillnet	9213	IL	11/5/92	1100	5	13	LSCS	310	F	4	19
9211	Gillnet	9213	IL	11/5/92	1100	5	14	LSCS	301	M	4	18
9211	Gillnet	9213	IL	11/5/92	1100	5	15	LSCS	302	M	5	19
9211	Gillnet	9213	IL	11/5/92	1100	5	16	LSCS	287	M	4	20
9211	Gillnet	9213	IL	11/5/92	1100	4	17	LSCS	300	M	5	17
9211	Gillnet	9213	IL	11/5/92	1100	4	18	LSCS	277	M	2	12
9211	Gillnet	9213	IL	11/5/92	1100	4	19	LSCS	291	M	4	15
9211	Gillnet	9213	IL	11/5/92	1100	4	20	LSCS	268	F	2	12
9211	Gillnet	9213	IL	11/5/92	1100	4	21	LSCS	269	F	2	13
9211	Gillnet	9213	IL	11/5/92	1100	4	22	LSCS	261	F	2	11

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9211	Gillnet	9213	IL	11/5/92	1100	4	23	LSCS	267	F	2	11
9211	Gillnet	9213	IL	11/5/92	1100	4	24	LSCS	263	M	2	11
9211	Gillnet	9213	IL	11/5/92	1100	4	25	LSCS	264	M	2	11
9211	Gillnet	9213	IL	11/5/92	1100	4	26	LSCS	258	M	5	12
9211	Gillnet	9213	IL	11/5/92	1100	4	27	LSCS	275	F	2	13
9211	Gillnet	9213	IL	11/5/92	1100	4	28	LSCS	258	F	2	11
9211	Gillnet	9213	IL	11/5/92	1100	4	29	LSCS	268	M	5	12
9211	Gillnet	9213	IL	11/5/92	1100	4	30	LSCS	280	F	5	13
9211	Gillnet	9213	IL	11/5/92	1100	4	31	LSCS	271	M	5	14
9211	Gillnet	9213	IL	11/5/92	1100	4	32	LSCS	263	F	5	11
9211	Gillnet	9213	IL	11/5/92	1100	4	33	LSCS	281	M	5	14
9211	Gillnet	9213	IL	11/5/92	1100	4	34	LSCS	283	F	2	12
9211	Gillnet	9213	IL	11/5/92	1100	4	35	LSCS	319	M	5	19
9211	Gillnet	9213	IL	11/5/92	1100	4	36	LSCS	285	M	4	11
9211	Gillnet	9213	IL	11/5/92	1100	4	37	LSCS	288	F	4	12
9211	Gillnet	9213	IL	11/5/92	1100	4	38	LSCS	259	F	2	12
9211	Gillnet	9213	IL	11/5/92	1100	4	39	LSCS	269	F	2	12
9211	Gillnet	9213	IL	11/5/92	1100	4	40	LSCS	260	M	2	11
9211	Gillnet	9213	IL	11/5/92	1100	4	41	LSCS	257	F	5	11
9211	Gillnet	9213	IL	11/5/92	1100	4	42	LSCS	263	M	5	13
9211	Gillnet	9213	IL	11/5/92	1100	4	43	LSCS	262	F	5	10
9211	Gillnet	9213	IL	11/5/92	1100	4	44	LSCS	260	M	2	13
9211	Gillnet	9213	IL	11/5/92	1100	4	45	LSCS	259	F	5	12
9211	Gillnet	9213	IL	11/5/92	1100	4	46	LSCS	361	F	5	12
9211	Gillnet	9213	IL	11/5/92	1100	4	47	LSCS	251	M	2	12
9211	Gillnet	9213	IL	11/5/92	1100	4	48	LSCS	253	M	5	11
9211	Gillnet	9213	IL	11/5/92	1100	4	49	LSCS	250	M	5	11
9211	Gillnet	9213	IL	11/5/92	1100	4	50	LSCS	250	M	4	13
9212	Gillnet	9212	IL	11/5/92	1200	4	1	LSCS	265	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	2	LSCS	272	M	4	11
9212	Gillnet	9212	IL	11/5/92	1200	4	3	LSCS	283	M	4	12
9212	Gillnet	9212	IL	11/5/92	1200	4	4	LSCS	277	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	5	LSCS	246	M	4	15
9212	Gillnet	9212	IL	11/5/92	1200	4	6	LSCS	310	M	4	13
9212	Gillnet	9212	IL	11/5/92	1200	4	7	LSCS	266	M	4	14
9212	Gillnet	9212	IL	11/5/92	1200	4	8	LSCS	250	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	9	LSCS	280	M	4	13
9212	Gillnet	9212	IL	11/5/92	1200	4	10	LSCS	255	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	11	LSCS	257	F	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	12	LSCS	240	M	2	11
9212	Gillnet	9212	IL	11/5/92	1200	4	13	LSCS	269	M	2	11
9212	Gillnet	9212	IL	11/5/92	1200	4	14	LSCS	275	F	4	12
9212	Gillnet	9212	IL	11/5/92	1200	4	15	LSCS	259	F	4	10
9212	Gillnet	9212	IL	11/5/92	1200	4	16	LSCS	260	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	17	LSCS	275	F	5	10
9212	Gillnet	9212	IL	11/5/92	1200	4	18	LSCS	245	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	19	LSCS	240	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	20	LSCS	255	M	4	12

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9212	Gillnet	9212	IL	11/5/92	1200	4	21	LSCS	355	M	4	16
9212	Gillnet	9212	IL	11/5/92	1200	4	22	LSCS	260	M	4	12
9212	Gillnet	9212	IL	11/5/92	1200	4	23	LSCS	277	F	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	24	LSCS	267	M	5	10
9212	Gillnet	9212	IL	11/5/92	1200	4	25	LSCS	295	M	5	19
9212	Gillnet	9212	IL	11/5/92	1200	4	26	LSCS	268	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	27	LSCS	263	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	28	LSCS	261	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	29	LSCS	275	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	30	LSCS	295	M	4	16
9212	Gillnet	9212	IL	11/5/92	1200	4	31	LSCS	257	M	5	10
9212	Gillnet	9212	IL	11/5/92	1200	4	32	LSCS	271	F	4	13
9212	Gillnet	9212	IL	11/5/92	1200	4	33	LSCS	261	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	34	LSCS	250	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	35	LSCS	255	M	4	13
9212	Gillnet	9212	IL	11/5/92	1200	4	36	LSCS	249	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	37	LSCS	274	M	4	12
9212	Gillnet	9212	IL	11/5/92	1200	4	38	LSCS	243	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	39	LSCS	255	M	4	13
9212	Gillnet	9212	IL	11/5/92	1200	4	40	LSCS	254	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	41	LSCS	263	F	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	42	LSCS	271	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	43	LSCS	255	F	5	11
9212	Gillnet	9212	IL	11/5/92	1200	4	44	LSCS	255	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	45	LSCS	261	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	46	LSCS	247	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	47	LSCS	234	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	4	48	LSCS	265	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	49	LSCS	256	F	2	12
9212	Gillnet	9212	IL	11/5/92	1200	4	50	LSCS	245	M	5	10
9212	Gillnet	9212	IL	11/5/92	1200	4	51	LSCS	252	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	52	LSCS	276	F	5	12
9212	Gillnet	9212	IL	11/5/92	1200	4	53	LSCS	250	F	5	9
9212	Gillnet	9212	IL	11/5/92	1200	4	54	LSCS	264	M	4	12
9212	Gillnet	9212	IL	11/5/92	1200	4	55	LSCS	255	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	1	56	LSCS	119	I	1	2
9212	Gillnet	9212	IL	11/5/92	1200	3	57	LSCS	279	M	4	12
9212	Gillnet	9212	IL	11/5/92	1200	3	58	LSCS	249	M	5	14
9212	Gillnet	9212	IL	11/5/92	1200	3	59	LSCS	212	M	2	5
9212	Gillnet	9212	IL	11/5/92	1200	3	60	LSCS	209	M	5	5
9212	Gillnet	9212	IL	11/5/92	1200	3	61	LSCS	206	M	2	5
9212	Gillnet	9212	IL	11/5/92	1200	2	62	LSCS	159	F	1	3
9212	Gillnet	9212	IL	11/5/92	1200	2	63	LSCS	180	F	1	4
9212	Gillnet	9212	IL	11/5/92	1200	5	64	LSCS	294	M	5	16
9212	Gillnet	9212	IL	11/5/92	1200	5	65	LSCS	347	M	5	16
9212	Gillnet	9212	IL	11/5/92	1200	5	66	LSCS	272	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	5	67	LSCS	301	F	4	20
9212	Gillnet	9212	IL	11/5/92	1200	5	68	LSCS	301	F	4	

Appendix Table 4. Biological data obtained from fish collected during 1991-1992 gillnet sampling in the Colville River delta.

Set Number	Method	Station	Habitat	Date Checked	Time Checked	Panel Number	Fish Number	Species	Length	Sex	Maturity	Age
9212	Gillnet	9212	IL	11/5/92	1200	5	69	LSCS	299	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	5	70	LSCS	305	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	5	71	LSCS	280	M	5	14
9212	Gillnet	9212	IL	11/5/92	1200	5	72	LSCS	281	M	4	14
9212	Gillnet	9212	IL	11/5/92	1200	5	73	LSCS	295	M	4	10
9212	Gillnet	9212	IL	11/5/92	1200	5	74	LSCS	296	M	5	16
9212	Gillnet	9212	IL	11/5/92	1200	5	75	LSCS	291	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	5	76	LSCS	292	M	4	15
9212	Gillnet	9212	IL	11/5/92	1200	5	77	LSCS	289	F	5	12
9212	Gillnet	9212	IL	11/5/92	1200	5	78	LSCS	298	M	5	11
9212	Gillnet	9212	IL	11/5/92	1200	5	79	LSCS	292	M	4	15
9212	Gillnet	9212	IL	11/5/92	1200	5	80	LSCS	294	M	5	13
9212	Gillnet	9212	IL	11/5/92	1200	5	81	LSCS	307	M	4	
9212	Gillnet	9212	IL	11/5/92	1200	5	82	LSCS	302	M	5	16
9212	Gillnet	9212	IL	11/5/92	1200	5	83	LSCS	326	F	4	16
9212	Gillnet	9212	IL	11/5/92	1200	5	84	LSCS	309	F	5	12
9212	Gillnet	9212	IL	11/5/92	1200	5	85	LSCS	290	M	5	12
9212	Gillnet	9212	IL	11/5/92	1200	5	86	LSCS	303	F	4	14
9212	Gillnet	9212	IL	11/5/92	1200	5	87	LSCS	287	M	4	15
9213	Gillnet	9201	TL	11/7/92	1130	3	1	ARCS	161	I	1	2
9213	Gillnet	9201	TL	11/7/92	1130	6	2	ARCS	343	M	2	7

Species:

ARCS = Arctic cisco
LSCS = least cisco
BDWF = broad whitefish
HBWF = humpback whitefish
RBSM = rainbow smelt
FHSC = fourhorn sculpin

Panel 1= 1.00 in (25 mm) mesh
Panel 2 = 1.25 in (32 mm)
Panel 3 = 1.63 in (41 mm)
Panel 4 = 2.06 in (52 mm)
Panel 5 = 2.75 in (70 mm)
Panel 6 = 3.50 in (89 mm)

Habitat:

RC = river channel
TL = lake connected to a river channel
IL = lake not connected to a river channel